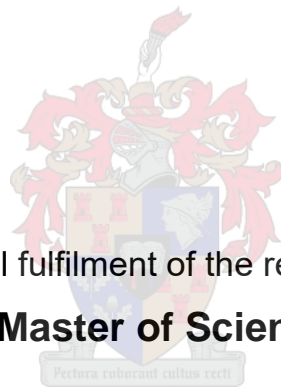


Insights into South African sparkling wine: A sensory and consumer study

by

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at

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March 2020

Declaration

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Date: March 2020

Summary

To be locally and internationally competitive, the South African wine industry needs to understand consumers' preferences and purchase motivations. It is especially the sparkling wine category Méthode Cap Classique wines (MCC) that was identified as requiring further insights to develop marketing strategies that appeal to the South African (SA) consumer. This study used an explanatory sequential mixed method design to gain insights into how young (18-35 years old) SA sparkling wine consumer experiences the MCC product offering. A selection of five different styles, namely brut, brut rosé, demi sec, demi sec rosé and low alcohol were chosen.

The first objective was to investigate and explore the sparkling wine category producers and growth, as well as the product's sensory (taste and aroma) characteristics. This was accomplished by data mining of the wine industry information sources Platters South African Wine Guide and the South African Wine Industry Information Systems (SAWIS) database. The second objective investigated how the SA sparkling wine consumer experienced the five styles of MCC intrinsically. This was accomplished by actual tasting of the MCC wines by 278 respondents, who had previously been exposed to MCC or sparkling wine, combined with the completion of a closed-ended tasting questionnaire. The questionnaire included wine evaluation with a Check All That Apply (CATA) list where respondents had to select sensory attributes perceived by them, liking and likelihood to buy, price perception, preference ranking, familiarity with MCC, and product involvement. The third objective investigated young SA sparkling wine consumers' familiarity with MCC, and their perceptions of the product's extrinsic features, such as label design, bottle shape and colour, brand name, price, and packaging. This third investigation was done by means of using a semi-structured open-ended questionnaire in one-to-one interviews with 13 consumers who also participated in the tasting.

Results of the quantitative phase showed that the respondents indicated an above average liking of the MCC wines tasted. They can distinguish between different styles of MCC in a blind tasting. The respondents liked the sweeter demi sec style the most, and the low alcohol style the least. The respondent's price perceptions of the wines, based on intrinsic features, were lower than the actual retail prices; however, the price was perceived to be higher than retail prices when based it on the bottle extrinsic features. The respondents also rated themselves as more familiar with sparkling wine than MCC.

In the subsequent qualitative approach, the respondent's familiarity with MCC revealed that they possessed knowledge of the MCC and engaged with the product category. They find different occasions and opportunities to consume MCC that were not limited to formal celebrations, such as weddings or graduations. While occasion of usage is important, bottle appearance and price emerged as the main determinants of whether they would select a bottle of MCC for a specific occasion. Respondents were also aware that their choice of a bottle of MCC for a specific occasion, communicates non-verbal cues about them in a social context to their peers.

This study has laid a foundation on how a selection of MCC wines are perceived in South Africa from respondents' multiple perspectives. Although the study is not generalisable to the whole South Africa, the mixed method research strategy used provided insights into consumers' perceptions and the use of mixed methods. Of these the preference for sweeter styles and non-preference for lower-alcohol wines – these aspects can be investigated in follow up studies using the methodology established in this study.

Opsomming

Om plaaslik en internasionaal mededingend te wees, moet die Suid-Afrikaanse (SA) wynbedryf die verbruikers se voorkeure en motiverings vir aankope verstaan. Dit is veral die Méthode Cap Classique (MCC) vonkelwynkategorie wat geïdentifiseer is vir die ontwikkeling van verdere insigte in die SA verbruiker sodat toepaslike bemarkingstrategieë vir hierdie teikengroep ontwikkel kan word. Hierdie studie het 'n verduidelikende opeenvolgende gemengde-metode-ontwerp (explanatory sequential mixed method research design) gebruik om insig te kry in hoe jong (18-35 jaar) SA vonkelwynverbruikers die MCC-produkaanbieding ervaar. 'n Seleksie van vyf verskillende MCC style, naamlik brut, brut rosé, demi sec, demi sec rosé en lae alkohol is gebruik. Drie duidelike geformuleerde navorsingsdoelwitte is gestel.

Die eerste doelwit was om die produsente en groei van die vonkelwynkategorie en die produk se sensoriese kenmerke (smaak en aroma) te ondersoek. Dit is bewerkstellig deur data-ontginning van die wynbedryf se inligtingsbronne Platters South African Wine Guide en die databasis van die Suid-Afrikaanse wynbedryfinligtingstelsels (SAWIS). Die tweede doelwit het 'n kwantitatiewe fase behels en het ondersoek ingestel na hoe die SA vonkelwynverbruiker die vyf gekose style van MCC intrinsiek ervaar. Dit is bewerkstellig deur die werklike proe van die MCC-wyne deur 278 respondente wat voorheen blootgestel was aan MCC of vonkelwyn. Die proeërs moes ook 'n geslote vraag proe-vraelys voltooi. Laasgenoemde inligting is gekombineer met die proedata. Die vraelys het 'n Check All That Apply (CATA) wynbeoordeling ingesluit waar 'n lys van sensoriese terme aan die proeërs aangebied is en waarvan hulle sensoriese eienskappe moes selekteer wat elke proeër waargeneem het tydens die wynevaluering. Inligting oor die visuele voorkoms van die wyn, die waarskynlikheid om die wyn te koop, pryspersepsie, voorkeurrangorde, vertroudheid met MCC en produkbetrokkenheid moes ook deur elke proeër verskaf word. Die derde doelwit het jong SA MCC verbruikers hul persepsies oor die ekstrasie eienskappe van die produk, soos etiketontwerp, bottelvorm en kleur, handelsnaam, prys en verpakking, ondersoek. Hierdie derde ondersoek is gedoen met behulp van 'n semi-gestruktureerde vraelys vir oop vrae in een-tot-een onderhoude met 13 verbruikers wat ook aan die proe (doelwit twee) deelgeneem het.

Resultate van die kwantitatiewe fase (doelwit twee) het getoon dat die respondente 'n bogemiddelde voorkeur vir die MCC-wyne aangedui het. Hulle kon onderskei tussen verskillende style van MCC in 'n blinde proe. Die respondente het die soeter demi-styl verkies en die lae alkohol-styl die minste. Die respondente se pryspersepsie van die wyne, gebaseer op intrinsieke kenmerke, was laer as die werklike kleinhandelpryse; Die repondente se pryspersepsie was egter hoër as die werklike kleinhandelpryse toe respondent dit gebaseer het op die bottel-ekstrasie kenmerke. Die respondente het hulself ook beskou as meer vertrouwd met vonkelwyn as met MCC.

In die daaropvolgende kwalitatiewe fase (doelwit drie) het dit in terme van die respondent se vertroudheid met MCC geblyk dat hulle oor MCC-kennis beskik en interaksie met die produkkategorie gehad het. Hulle het rapporteer dat verskillende sosiale gebeurtenisse en

geleenthede om MCC te gebruik nie slegs tot formele funksies soos troues of gradeplegtighede beperk was nie. Alhoewel spesiale geleenthede vir die gebruik van MCC belangrik was, het die voorkoms en prys van die bottel na vore gekom as die belangrikste uitkomst op die vraag of hulle 'n bottel MCC vir 'n spesifieke geleentheid sou kies. Respondente was ook bewus daarvan dat hul keuse van 'n bottel MCC vir 'n spesifieke geleentheid nie-verbale leidrade oor hulle in 'n sosiale konteks aan hul eweknieë kommunikeer.

Hierdie studie het 'n grondslag gelê oor hoe 'n seleksie van MCC-wyne in Suid-Afrika vanuit die meerdere perspektiewe van die respondente waargeneem word. Alhoewel die studie nie vir die hele Suid-Afrika veralgemeenbaar is nie, het die gemengde-metode-navorsingstrategie wat gebruik is, insigte gegee in die persepsies van die verbruiker en die gebruik van gemengde metodes. Hiervan is die voorkeur vir soeter style en nie-voorkeur vir wyne met 'n laer alkoholinhoud insigvol. Hierdie aspekte kan ondersoek word in opvolgstudies volgens die metodologie wat in hierdie studie bepaal is.

This thesis is dedicated to
my grandfather, Saul Mokonotela, Mthimkhulu makhola ko lebelwe maRadebe Hlubi Bongani
Ndlebe zimbili si Khanya ilanga,
my grandmother, Sara Mokonotela, Mathutlwa monyana wa raDiale wa Phokeng wa noka e
ntshonyane ya motlhabane ga e tshele mmagoga a loya,
le setlogolo sa matebele a ka Mthimkhulu o tsalwa ko Batlhalerwa dinja tse di jang phologolo e
phela eseng sebedu.

Biographical sketch

Tshepo Tshiamo Mokontela was born in Rustenburg, South Africa on 18 January 1995. He started at Boshhoek Primary School and matriculated at Grenville High School in 2013. Tshepo obtained a four-year BSc-degree in Food Science in 2017 at Stellenbosch University. In 2018 Tshepo enrolled for an MSc in Wine Biotechnology at the Institute for Wine Biotechnology, Department of Viticulture & Oenology, Stellenbosch University.

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- To the Saul Mokonotela bloodline, and the matriarchs of the family, your prayers have not gone unheard.
- And to God, without Him, I would not have come this far.

Preface

This thesis is presented as a compilation of 6 chapters. Each chapter is introduced separately and is written according to the style of the journal South African Journal of Enology and Viticulture to which Chapter 4 and Chapter 5 are to be submitted for publication.

Chapter 1 **General introduction and project aim**

Chapter 2 **Literature review**
Exploring wine and consumer behaviour

Chapter 3 **Research results**
South African sparkling wine landscape, looking into product attributes and market analysis

Chapter 4 **Research results**
Consumer sensory perceptions of Méthode Cap Classique sparkling wines

Chapter 5 **Research results**
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Chapter 5 **General discussion and conclusions**

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Chapter 1: Introduction

1.1 Introduction

In the wine industry, sparkling wine is typically divided according to the technique associated with its preparation. The two techniques commonly associated with sparkling wine production are (a) force carbonation using carbon dioxide or (b) secondary fermentation by means of employing the yeast present in the base wine. This secondary fermentation process can occur within the bottle or in a tank (Puckette, 2015).

Champagne is one of the most renowned secondary bottle fermented sparkling wines, that has been regarded as one of the finest sparkling wines from a consumer standpoint (Cerjak *et al.*, 2016). South Africa also makes its own secondary bottle fermented sparkling wine called Méthode Cap Classique (MCC). However, despite the popularity of secondary bottle fermented sparkling wine, the high-cost of sparkling wine can discourage purchase to the average consumer (Charters *et al.*, 2011; Cerjak *et al.*, 2016).

There is published scientific research available on consumer perception of wine, but only a limited number of papers focus specifically on sparkling wine (Charters *et al.*, 2011; Cerjak *et al.*, 2016). Considering that the wine industry is frequently evolving, it is vital for the industry to keep up with this change in consumer interests (Bruwer & Li, 2007; Ndanga *et al.*, 2010). Globally, there have been studies done on consumer behaviour relating to wine. However, the majority of these studies were conducted in European wine markets (such as France and Italy), where wine consumption is part of the consumers' lifestyle (Tang *et al.*, 2015).

There is an interest growing in the quality of bottle fermented sparkling wine (Kemp *et al.*, 2015), within the limited number of published scientific research, countries such as France, Italy, and the United States have done studies relating to the association between consumer interests and sparkling wine. Furthermore, South Africa and Australia are among the new world wine producing countries that have also published literature relating to wine consumer behaviour.

The insights gained from previous research on consumer acceptance of still wines in South Africa (Mapheleba, 2018; Weightman, 2018) have helped the wine industry to develop marketing strategies for these specific product categories. Some of these strategies also come from the Wine Industry Strategic Exercise (WISE), which has dedicated itself to changing the wine industry to assure a sustainable future for a robust, adaptable and competitive industry (Augustyn & Heyns, 2016). Wine industry initiatives such as WISE help wine industry role players in better communicating, understanding, and reaching out to the South African wine consumer. These initiatives are generally aimed at the still wine industry and from some research done, consumers consider sparkling wine to be a different category from still wine (Gaiter & Brecher, 2009; Newton, 2010; Charters *et al.*, 2011).

Since the South African wine industry faces a constant challenge of delivering high-quality wines that are in line with the wine consumers' interests, it is important to conduct research that focus on the wine consumers' requirements, preferences and expectations.

1.2. Problem statement

The researcher is unaware of research in the public domain on the South African sparkling wine consumers' experience of the MCC product offering, relating to the intrinsic and extrinsic product features. Product intrinsics refer to features such as taste, aroma, and flavour, whereas extrinsics refers to features like physical bottle colour, brand name, labelling style and packaging. Furthermore, there is limited research on technical aspects of MCC production, but no publicly available research on consumer perceptions and liking.

Sparkling wine has been perceived as a celebratory drink of choice for years. However, an understanding of the sparkling wine, specifically MCC, consumers' needs, preferences, attitudes and buying behaviour is needed and will assist in developing marketing strategies that appeal to the South African sparkling wine consumer. To gain these insights, an investigation needs to be launched into what the producers are offering, and where the preferences of the consumer lie.

1.3. Research aim and objectives

The overall aim of this study was to gain insights into how the young (18-35 years old) South African wine consumers experience the MCC product offering. Young wine consumers are of interest because they are usually the new wine drinkers.

The research objectives were:

1. To investigate the recent landscape of South African MCC producers and the sensory attributes of selected sparkling wine categories.
2. To explore how SA wine consumers perceive the intrinsic sensory characteristics of a selection of MCC products through actual tasting of the wines.
3. To gain more in-depth insights into the respondents' familiarity with the MCC product category and their perception of the product extrinsics.

1.3.1. Objective 1 – Quantitative methodology

Investigate and explore the producer growth, the product growth, and the sensory characteristics of the sparkling wine product category:

- Investigate and explore Platters Wine Guide and South African Wine Information Systems.
- Use descriptive statistics and correspondence analysis to visualise findings.

1.3.2. Objective 2 – Quantitative methodology

Investigate how the young (18-35 years old) South African wine consumer, compared to the older (>35 years) consumer, experiences the MCC product offering intrinsically:

- Develop a close-ended questionnaire for respondents to evaluate the different styles of MCC and discuss their product experience based on product intrinsics.
- Evaluate any standout findings that could be further investigated qualitatively.

1.3.3. Objective 3 – Qualitative methodology

Investigate the young (18-35 years old) South African wine consumers' familiarity with MCC, as well as how they perceive the product extrinsic:

- Conduct semi-structured interviews with respondents who are interested in MCC and were present at the consumer tasting.
- Use thematic text analysis to identify themes and codes within transcripts.

1.3.4. Objective 4 – Mixed methods (integration of quantitative and qualitative findings)

Gain insight into how the young (18-35 years old) South African wine consumer experiences the product acceptance (intrinsic) in relation to how the consumer experiences the bottle appearance (extrinsic).

- Integrate quantitative and qualitative findings to better understand how the young South African wine consumer experiences the MCC product intrinsically and extrinsically.

1.4. Study rationale and significance

1.4.1. Methodological rationale

The use of mixed methods has been popular in the social and health sciences, whilst the use of mixed methods in the fields of marketing and consumer behaviour has been growing (Denscombe, 2008; Guetterman *et al.*, 2015). This mixed methods study used an explanatory sequential design, which starts with a quantitative section and leads into a subsequent qualitative inquiry. The qualitative phase builds directly on the results from the quantitative phase, this way, the quantitative results are explained in more detail through the qualitative data (Wisdom & Creswell, 2013). The findings from this mixed methods study are intended to help gain better insights into how the young South African wine consumers experience the MCC product, both intrinsically and extrinsically.

1.4.2. Industry rationale

A meeting with the Cap Classique Producers Association (CCPA) indicated that they are unclear of who this new consumer that consumes Méthode Cap Classique is. During this meeting there were a number of points which the CCPA raised that they would like to be investigated during this project. The CCPA was interested in knowing who enjoyed MCC, what influences their decisions in term, is it label, quality, flavor, or sugar level. They also wanted to know the occasions which they consume MCC, how does the consumer decide on a specific brand or style of MCC, and does brand play an important role in their decision.

1.4.3. Study originality

To our knowledge, this study is the:

- First formal consumer research on Méthode Cap Classique.
- First South African study to use mixed methods to assess Méthode Cap Classique intrinsics and extrinsics.

1.4.4. Study outputs

The following papers have already been presented at a conference (and more to come):

- Mokonotela, T.T., Pentz, C.D., Jolly, N., Bauer, F.F. & Nieuwoudt, H.H. (2018, September 16-19). *Getting Generation Y to Pop the Cork – A South African Sparkling Wine Study*. Paper presented at the SAIMS 30th Annual Conference. Stellenbosch South Africa.
- Mokonotela, T.T., Pentz, C.D., Jolly, N., Bauer, F.F. & Nieuwoudt, H.H. (2018, October 2-4). *South African Sparkling Wine: MCC Product Offering and Consumer Y Acceptance*. Paper presented at the SASEV-WINETECH 41st International Conference. Somerset West, South Africa.

The following posters have already been presented at a conference:

- Mokonotela, T.T., Pentz, C.D., Jolly, N., Bauer, F.F. & Nieuwoudt, H.H. (2018, October 2-4). *Exploring the South African Sparkling Wine Producer Landscape and Product Offerings*. Poster presented at the SASEV-WINETECH 41st International Conference. Somerset West, South Africa.
- Mokonotela, T.T., Pentz, C.D., Jolly, N., Bauer, F.F. & Nieuwoudt, H.H. (2018, October 2-4). *New Insights into South African Sparkling Wine: Sensory and Consumer Study*. Poster presented at the SASEV-WINETECH 41st International Conference. Somerset West, South Africa.

1.5. Ethical considerations

The study used the perceptions and opinions of members of the public, therefore ethical clearance was applied for and obtained from the Human Ethics Committee at Stellenbosch University, to protect the respondent's confidentiality and safety. Each participant that took part in the quantitative phase filled in a consent form agreeing to participate, and anonymity was maintained. In the qualitative section the respondents signed a consent form agreeing to the project, the use of their opinions, and anonymity.

1.6. Procedural methods

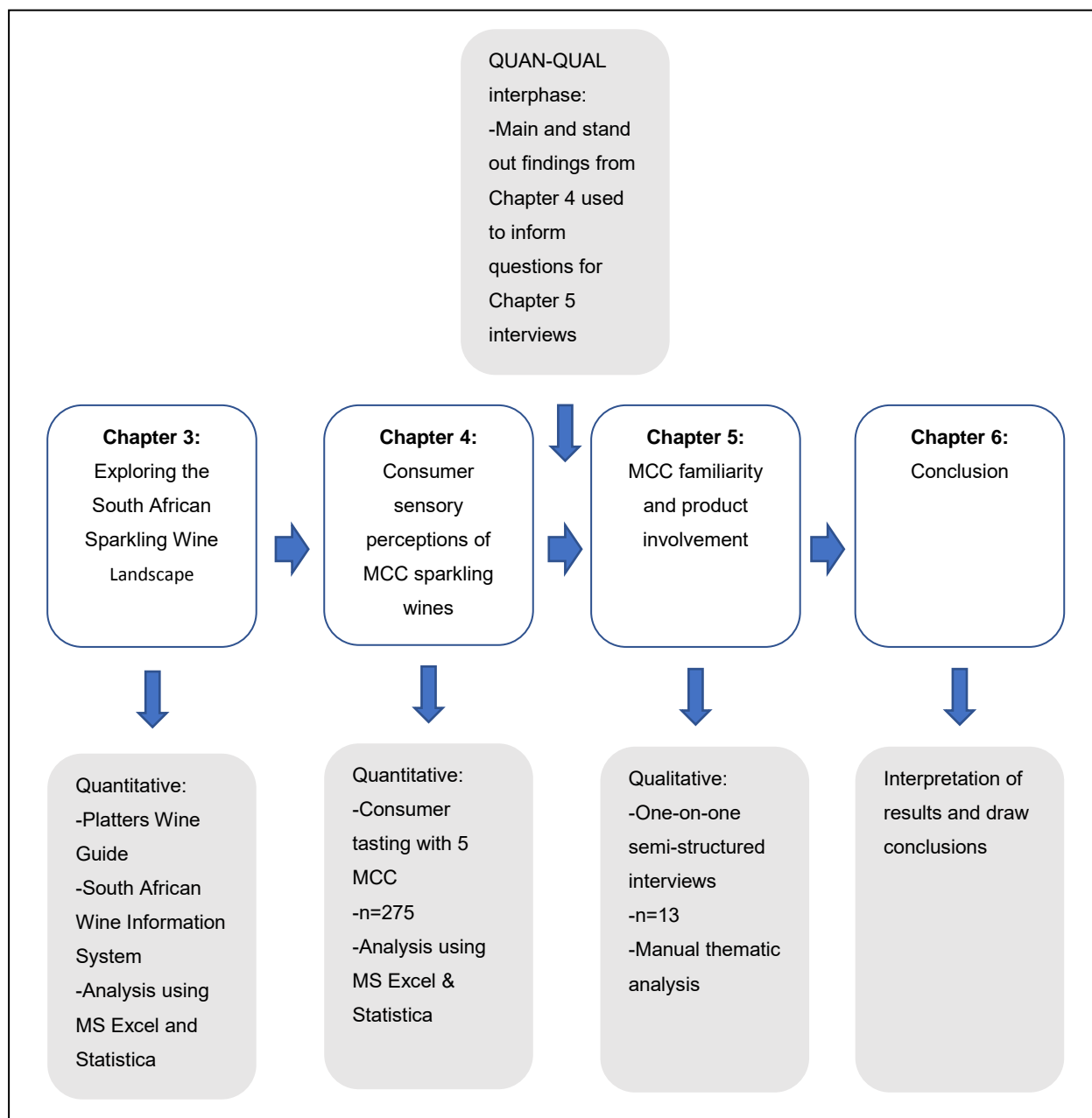


Figure 1.1 The experimental design and what was done in every chapter.

Figure 1.1 provides a summary of the experimental design. The design includes the method of data collection or source of the data, as well as the instruments used for the data analysis. Chapter 2 covers the literature review, followed by an inquiry into the sparkling wine product category landscape in Chapter 3. Chapter 4 contains the main quantitative experiment, which was the consumer tasting. Then between the quantitative and qualitative inquiry there is an interphase which was used to inform the questions asked in Chapter 5. Chapter 5 has the inquiry into the consumers' experiences with the Méthode Cap Classique bottle extrinsic.

Due to the absence of literature relating to MCC, the literature review will be an exploration into wine consumer behaviour and the wine experience. The subsequent research chapters will be comparing the available literature on wine consumers to the findings from this research on the MCC respondents that took part in the experiment. As a point of departure there are a couple of terms that will need to be defined:

- Consumer: a person who purchases goods and services for personal use. In this thesis, it may be used interchangeably with "wine consumer" to refer to a person who purchases and engages with wine for personal use.
- Respondent(s): a person (or people) who took part in this study by tasting the MCC wines (Chapter 4) and participating in the interviews (Chapter 5).
- Wine: an alcoholic drink that is usually made from grapes; this includes, amongst others, red, white, rosé, dry, sweet, sparkling, and table wine.
- Still wine: table wine that has low levels of carbon dioxide, as opposed to bubbly, sparkling or fizzy wines and drinks that contain high levels of carbon dioxide (all wines contain some carbon dioxide).
- Sparkling wine: wine that has added carbon dioxide which results in bubbly/ fizzy/ effervescent/ sparkling wine.
- Carbonated sparkling wine: sparkling wine that receives the bubbles by force injection of still wines with carbon dioxide gas.
- Secondary bottle fermented sparkling wine: sparkling wine that received the carbon dioxide bubbles from a second fermentation that takes place in the bottle with sugars and yeast added to facilitate the second fermentation.
- Méthode Cap Classique (MCC): secondary bottle fermented sparkling wine produced in South Africa.

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Chapter 2: Literature Review - Exploring wine and consumer behaviour

2.1. Brief history of South African wine and MCC

The journey of South African wine started on the 2nd of February 1659 when Jan van Riebeeck, first Governor of the Cape, wrote in his diary: "Today, praise be to God, wine was made for the first time from Cape grapes..." (SAWIS, 2019). The first bottle of fermented sparkling wine was only made around 1968 but first sold in 1971 (Burger *et al.*, 2011). The name Méthode Cap Classique (MCC) was only promoted in 1992 when the Cap Classique Producers Association (CCPA) was founded (Burger *et al.*, 2011; Schelin, 2018). The first product was produced by the Malan family who still owns Simonsig Wine Estate (Howe, 2017).

The first bottle of MCC sold for R3, now one can find bottles that cost thousands of Rands (Howe, 2017). MCC not only saw itself grow price wise but also in popularity, as the growth of sparkling wine grew in popularity around the world over the years. There has been a shift in sparkling wine moving from it being an occasion-based drink to a lifestyle drink (Bales, 2018).

In the 1930s South Africa (SA) entered into the "Crayfish Agreement" with France which meant that SA was not allowed to use any generic French wine names, in exchange France referred to crayfish from SA as "South African crayfish", which gets sold and consumed in the French market (Holtzhausen, 2013). Therefore, South Africa was no longer authorised to use certain expressions and words such as Champagne for sparkling wine or refer to red wines as Burgundies. That is the reason why secondary bottle fermented sparkling wine in South Africa is called Méthode Cap Classique, it is made using the classical method in the cape.

2.1.1. South African wine information sources

South Africa has numerous sources to obtain wine industry related information and statistics. The sources of interest are Platter's Wine Guide and South African Wine Industry Information & Systems (SAWIS).

Platter's South African Wine Guide keeps track of all the different carbonated wine products, amongst other wine products, it allows for comparisons of the different sparkling wine products (Valente *et al.*, 2018; van Zyl & Rossouw, 2018). Producers submit their wine and an appointed panel of industry experts taste and evaluate the wines. While evaluating the wines, the panel generates a set of descriptors of the perceived sensory attributes and gives a quality rating out of five stars, five being the highest quality. SAWIS keeps track of all wine industry related statistics, as well as history and background (SAWIS, 2017).

Platter's Wine Guide keeps track of on various aspects relating to wine, including the producer, vintage, rating, place of origin and sensory. The Platter's Wine Guide was consulted as

it not only keeps track of the producers and products made, but the vintage ratings allow the researchers to establish the direction of quality over a couple of years, as well as evaluate the sensory descriptors associated with these vintage ratings.

In the past these sources (Platters and SAWIS) have been consulted for various papers. Platter's Wine Guide has been used in mining large sets of data from publicly available sources to produce meaningful domain-specific information about the sensory properties of wine (Valente *et al.*, 2018). SAWIS has been used to investigate the statistics of the wine industry to gain insight into the wine industry landscape (Mapheleba, 2018; Weightman, 2018).

2.2. Production of bottle fermented sparkling wine

Sparkling wine is one of the most technical wines in terms of production as it requires two processes, the first to make the still wine and the second to carbonate the wine (Torresi *et al.*, 2011). Sparkling wines were first introduced in the mid-1500s and over time there have been several processes developed, each resulting in a unique sub-style of sparkling wine (Burger *et al.*, 2011; Schelin, 2018). However, there are three major sparkling wine production methods, mainly based on how the base wine gets carbonated. First is the secondary bottle fermented sparkling wine, with these products there is a second fermentation that takes place in the bottle which results in carbonation of the base wine (Puckette, 2015; Garofalo *et al.*, 2016). The second method is tank style, whereby the second fermentation takes place in a tank to carbonate the wine before transferring it to the final bottle (Puckette, 2015). The third style is force carbonation whereby carbon dioxide is pumped into the base wine to carbonate it (Burger *et al.*, 2011; Torresi *et al.*, 2011; Puckette, 2015; Schelin, 2018).

2.2.1. Production process of bottle fermented sparkling wine

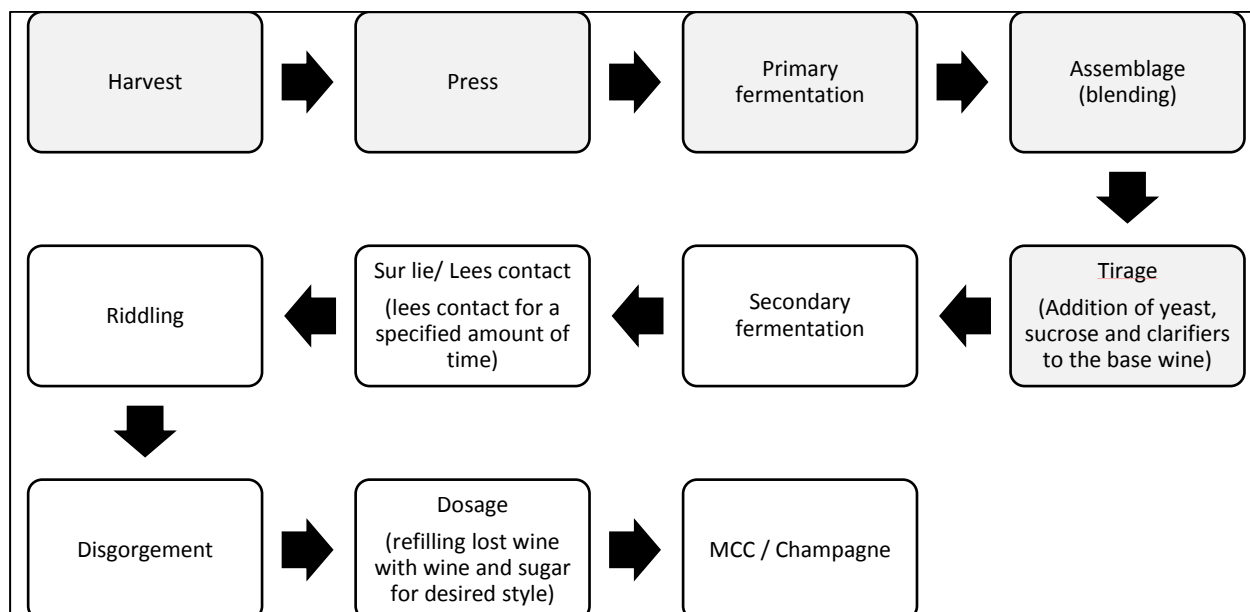


Figure 2.1 Production process for bottle fermented sparkling wine using the Traditional Method (Torresi *et al.*, 2011; Schelin, 2018).

Secondary bottle fermented sparkling wine is made using a two-step fermentation process (Torresi *et al.*, 2011). Figure 2.1 shows the production process, the first fermentation is when the base wine is made, and the second fermentation is where the base wine gets carbonated.

First, the grapes are harvested for the first fermentation. Sparkling wines are generally produced with white grape varieties. The red wine varieties are generally used for the production of rosé and blanc de noir, some skin contact time is used to get the desired pink blush colour (Pozo-Bayo *et al.*, 2004). To produce sparkling wine using the traditional method, there are three classical grape varieties used: Chardonnay, Pinot Noir, and Pinot Meunier (Caliari *et al.*, 2014). In South Africa all grape varieties can be used to produce bottle fermented sparkling wine.

After harvesting, the grapes are pressed to extract the juices, sulphur dioxide is added, the mixture is clarified, and then yeast is added (Burger *et al.*, 2011; Schelin, 2018). The chosen yeast strain added, and grape cultivar used will determine the base wine produced. This first fermentation occurs at controlled temperatures (15-18°C) (Torresi *et al.*, 2011; Garofalo *et al.*, 2016). Some producers then blend different base wines to produce the desired product. Before the second fermentation takes place, there is tirage, this is the addition of yeast, sucrose and clarifiers to the base wine (Burger *et al.*, 2011; Schelin, 2018). These additions initiate the production of carbon dioxide in the bottle.

During the second fermentation the wine will lay in the bottle in contact with the lees for a period of time (sur lie), lees are deposits of dead yeast or residual yeast and other particles that precipitate to the bottom of a bottle of sparkling wine after fermentation and aging. In South Africa the lees contact period is currently 9 months and in Champagne (France) it is 15 months. During the aging period there are a number of ways that bottles are stored: stacking bottles on the floor; using wood or caged bins; or storing the bottles in cartons (Torresi *et al.*, 2011). Once this aging

period has passed the bottles go through the riddling process, this is when the bottles are turned upside down to get the yeast sediments at the bottle neck. During disgorgement the bottle neck is frozen, and the cap removed, which removes the frozen yeast sediment also leaving the sparkling wine clear. During disgorging there is some sparkling wine that is lost, which is refilled with a dosage. The dosage is a mixture of sugar and wine (according to the winemaker's specifications), this will ultimately define the final style of the sparkling wine produced.

There are different styles of MCC and Champagne, determined by the dosage added at the end, as these styles are based on the amount of residual sugar found in the MCC or Champagne (Table 2.1).

Table 2.1 Different sugar levels for the different styles of MCC and Champagne (Burger *et al.*, 2011; IOL, 2018; Schelin, 2018).

Term	Sugar content (grams per litre)		Explanation
	Méthode Cap Classique	Champagne	
Extra brut	0 – 6	0 – 6	Absolutely dry
Brut	0 – 12	0 – 15	Dry
Extra dry, extra sec, tres sec	12 – 17	12 – 20	Dry-semi dry
Sec	17 – 32	17 – 35	Semi dry
Demi sec	32 – 50	33 – 50	Semi sweet
Doux	>50	>50	Sweet

Not only are there different styles of secondary bottle fermented sparkling wines but there are many other countries around the world that use this method to make their own secondary bottle fermented sparkling wine (Burger *et al.*, 2011; Madeline, 2016). The Champagne region of France has Champagne, other places in France have Crémant or Mousseux, Italy has Prosecco, Asti, Franciacorta, and Spumante, Germany has Sekt, Spain has Cava, and Russia and Ukraine have Shampanskoye.

2.2.2. Factors affecting the sensory profile of bottle fermented sparkling wine

a) Yeast selection

Yeast strain selection is important in the production of secondary bottle fermented sparkling wine products because they play a role in the flavour compounds produced in the secondary fermentation which will affect quality and sensory attributes. The yeast strain used for the base wine is generally responsible for typical characteristics such as pale colour, fruity aroma, low residual sugar content, moderate alcohol content, and low volatile acidity (Torresi *et al.*, 2011).

Different *Saccharomyces* species are used for the production of sparkling wine (Garofalo *et al.*, 2016). The yeasts used during alcohol production produce several compounds, mainly ethanol and carbon dioxide. During sparkling wine production, the wines are placed under constant pressure, therefore there is no way for the carbon dioxide to escape. The carbon dioxide diffuses into the wine and thus carbonating the wine resulting in what is known as sparkling wines.

The yeast cells, sucrose and nitrogen sources added at the beginning of the second fermentation assist the wine with aging. Yeast autolysis occurs during this aging period and results in the release of several cellular compounds, such as amino acids, proteins, carbohydrates, and lipids (Fornairon-Bonnefond *et al.*, 2002; Alexandre & Guilloux-Benatier, 2006; Kemp *et al.*, 2015). All these compounds play a role in improving the quality of the sparkling wine and gives it unique characteristics, including foam, and sensory characteristic enhancement (Garofalo *et al.*, 2016).

Table 2.2 shows the different components in the yeast cells and how these components impact the quality and different characteristics of sparkling wine. Some of these sensory attributes include volatile aromas which contribute to the sparkling wine's bouquet, increasing its complexity and providing toasty, lactic, sweet, and yeasty notes, which increase the longer the aging period (Gallardo-Chacón *et al.*, 2010).

Table 2.2 Modified table with the different cellular compounds released during yeast autolysis and their proven or potential impact on sparkling (Alexandre & Guilloux-Benatier, 2006)

Cellular compound	Proven or potential impact on sparkling wine
Nucleoside	Flavouring agent
Nucleotide	
Amino acid	Aroma precursors Foam quality Sweet and bitter taste
Peptide	
Protein	
Lipids	Foam quality
Glucan	Foam quality
Mannoproteins	Increased mouthfeel

b) Bubbles

The quality of sparkling wines is usually assessed by analysing the bubbles and collar dynamics which are formed during the pouring and drinking process (Kemp *et al.*, 2015; Condé *et al.*, 2017). Collar dynamics is the row of bubbles at the edge of the glass. Therefore, assessment of sparkling wine foam is highly influenced by the quality of the foam produced during the release of carbon dioxide upon bottle opening and the subsequent wine appreciation (Condé *et al.*, 2017).

Numerous factors that play a role in the size of bubbles produced upon opening a bottle of sparkling wine, the fewer impurities there are and the cooler the room that the second fermentation occurs in, the smaller the bubbles. The smaller bubbles result in a finer bead and therefore a crisp mouthfeel. The longer the bottle of sparkling wine is aged, the smaller the bubbles, and this will affect the flavour and consistency (Gaiter & Brecher, 2009).

Bubbles help with releasing the volatile aromas into the air when the bubbles pop, this results in the release of aerosols that contain the desired aromatic compounds (Sawer, 2016). Sparkling wines with smaller bubbles tend to be more desired as they can carry the delicate aromas that are not easily perceived from larger bubbles (American Chemical Society, 2003).

2.3. Wine consumer behaviour and the wine experience

Consumer behaviour is defined as a set of activities that consumers perform when they look for, evaluate, use and dispose of goods with the object of satisfying their needs and wishes (Ndanga *et al.*, 2010). Ndanga *et al.* states that these activities include not only mental and emotional processes but also physical actions.

Choosing wine in retail is seen as a complex and difficult task (Bruwer *et al.*, 2011; Nunes *et al.*, 2016). There are several factors for the consumer to consider before choosing a bottle of wine. Some of these factors include the grape cultivar, style, price, appearance, taste, and brand. These factors would either be wine intrinsic or extrinsic cues. Wine intrinsic cues relate to the wine itself, including features such as colour, aroma, flavour and taste. Wine extrinsic cues are the features that can be adapted without changing the physical wine itself, for example packaging, brand and price (Atkin & Thach, 2012; Viot, 2012; Kelley *et al.*, 2015; Gevers, 2019).

Wine has been found to have a number of connotations, thus choosing a bottle carries some risk (Bruwer *et al.*, 2011; Nunes *et al.*, 2016). In instances of high risk purchasing, consumers will rely on extrinsic cues as a guide because intrinsic cues are difficult to assess in retail. The reason why wine carries high risk in terms of purchasing it is because wine is seen as not just an alcoholic beverage, but also quality of life (Ndanga *et al.*, 2010). Quality of life refers to socio-economic standing as these are part of the wine consumer, demographic factors such as location, age, gender, income and education.

Consumers' knowledge plays an important role in the decision-making process prior to purchase (Barber *et al.*, 2006). This is applicable to wine because consumers in retail often use the information given to them on the packaging to make an informed decision as to what wine they are going to purchase.

Researchers have found several factors that affect consumer product experience, but not limited to:

2.3.1. Consumer knowledge

Consumer knowledge refers to the product knowledge a consumer has on a specific product (specifically wine) (Forbes *et al.*, 2008). Measuring consumer knowledge is difficult, because it is mainly determined by the consumer's subjective knowledge on a specific product. Product knowledge can be increased through the consumers' interaction with the product category. This interaction creates a foundation in the development of the consumers' subjective and objective product knowledge (Barber *et al.*, 2006). Objective knowledge is what the consumer really knows and has developed through usage experiences and sources of information, while subjective knowledge is about the consumers' self-perceived knowledge (Barber *et al.*, 2006; Forbes *et al.*, 2008). A connotation associated with wine knowledge is that it has been found to be a symbol of

status and influence (Barber *et al.*, 2006). The amount of wine knowledge a consumer has is taken as an indication of their social standing amongst their peers.

When in a retail environment, consumers primarily rely on the front and back label of a bottle to communicate all the information that a consumer needs to know about the wine product (Kelley *et al.*, 2015). The labels communicate information such as grape cultivar, wine origin, brand name, sensory descriptors about the wine, and sometimes wine brand history.

2.3.2. Price

Price has always been a consideration to consumers when buying wine (Bruwer *et al.*, 2011; Robertson *et al.*, 2018). Consumers are aware that wine from certain regions of origin tend to be more expensive (Josiassen *et al.*, 2008). Therefore, the knowledge that a consumer has regarding a product will determine the amount they are willing to pay for a bottle of wine, because Lockshin & Corsi (2013) state that consumers who have low involvement with wine tend to focus on wine and those that have high involvement are more concerned about the region of origin (Lockshin & Corsi, 2013). When consumers are knowledgeable on a product, they are willing to make financial compromises.

2.3.3. Packaging

Packaging is an important factor in the retail purchase of wine because consumers are unable to taste the product prior to consumption. Packaging and labelling affect the consumers attention, comprehension of value, perception of product functionality, and consumption (Barber *et al.*, 2006; Krishna *et al.*, 2017).

When deciding on purchasing a bottle of wine consumers are bombarded with numerous brands on the shelves and information on the bottle, most often this is before the consumer has had an opportunity to taste the wine (Tang *et al.*, 2015). Therefore, in such situations consumers are required to make decisions based on the information presented to them on the label, which contains information relating to both intrinsic and extrinsic cues (Tang *et al.*, 2015).

Bottle extrinsic features for wine products relate to features that can be changed without affecting the taste quality of the wine, these include bottle shape, colour, closure, label design and information on the label (Barber *et al.*, 2006). Branding is important because bottle design and brand name mainly matter during the purchase of gifts, otherwise the consumer prefers familiar label designs and names (Tang *et al.*, 2015). All these extrinsic features are cues that the consumer will visually rely on to determine their choice in wine.

2.3.4. Taste

Winery history and elaborate taste descriptions have been found to have positive influences on choices made regarding wine purchase (Lockshin & Corsi, 2013). These taste descriptors are

what consumers are expecting to taste when they drink the wine. Once the consumers expectation of the taste is met and all other components of the wine are met, the wine risk is reduced (Lockshin & Corsi, 2013; Borgogno *et al.*, 2015). In a study done in Croatia, it was found that the most important sparkling wine characteristics for consumers are taste, price to quality ratio, and smell (Cerjak *et al.*, 2016). Therefore, taste is vital in the wine experience because ultimately consumers are buying wine to consume it, and if they enjoy the taste they will consider buying to next time.

2.4. Mixed Methods Research

Mixed methods refers to a research methodology that uses the integration of both qualitative and quantitative research methodologies to collect and analyse data, integrate findings, and draws conclusions in a single study (Tashakkori & Creswell, 2007; Creswell, 2013; Guetterman *et al.*, 2015). The use of both methodologies allows for an enhanced understanding of the research problem as well as the correlating the results. Mixed methods also provides holistic findings to a research problem than if only a qualitative or quantitative approach was used alone (Tashakkori & Creswell, 2007). There are a number of different typologies and research designs employed in mixed methods research. Three commonly referenced primary approaches are namely convergent design, explanatory sequential design and exploratory sequential design.

In a convergent design, the qualitative and quantitative data are collected separately. The two datasets are then merged together by means of discussion, data transformation or joint displays. A convergent design allows the researcher to approach and view the table from different perspectives, as well as use one dataset to validate the other (Creswell, 2013). The second mixed method design is an exploratory sequential design, this design starts with an initial qualitative phase where the resulting data is used to inform and design the subsequent quantitative design (Creswell, 2013). An exploratory sequential design allows the researcher to improve on existing quantitative instruments because it draws from the actual experiences from participants, and provides insight into the generalizability of the quantitative results (Creswell, 2013). The final design, explanatory sequential design, starts with an initial quantitative phase followed by a qualitative phase which would be used to explain the quantitative results. An explanatory sequential design allows the research to draw conclusions by having the qualitative results explain the quantitative (Creswell, 2013).

2.4.1. Rationale for using mixed methods: explanatory sequential design

Mixed methods was chosen as the methodology of choice for this study because it results in a more complete picture by combining information from different kinds of datasets and information sources (Denscombe, 2008). Mixed methods thus allows for complementing strengths and weaknesses of single approach methodologies (Johnson & Onwuegbuzie, 2004). In the past

mixed methods has been used as a way of building on initial findings, and developing analysis strategies by using other datasets, or contrasting or complementary methodologies (Tashakkori & Creswell, 2007; Denscombe, 2008; Creswell, 2013). A mixed methods approach to research is useful in sampling participants for potential inclusion in an interview program, which is helpful in keeping continuity in an explanatory sequential design (Denscombe, 2008).

Consumer behaviour is a complex topic, that combined with the complexities of wine as a product, it was fitting to use mixed methods as research methodology to inquire the consumer sensory and behaviour in relation to sparkling wine. Each research methodology (qualitative and quantitative) has its own strengths and limitations. A researcher needs to know how to use these strengths to address the topic of wine consumer behaviour.

2.4.2. Quantitative research

Quantitative findings usually yield statistical significance, confidence intervals, size effects and provide the general outcomes of the study (Creswell, 2013). Quantitative researchers maintain that a research inquiry should be objective, it should be free from time and context generalisations, and should also be reliable and valid (Johnson & Onwuegbuzie, 2004).

Quantitative data collection usually comes in the form of questionnaires, which tend to differ depending on the desired outcome (Creswell, 2013). Quantitative research seeks to statistically test hypotheses.

Consumer tastings have been used in the past to do an inquiry during research into how consumers experience product intrinsics and to provide outcomes which would be deemed as valid and reliable. Thus, it would be advantageous to employ this methodology in this study to investigate how a consumer experiences product intrinsics.

2.4.3. Qualitative research

Qualitative findings, in the context of the chosen sequential explanatory design, aide in explaining the findings of the quantitative phase (Creswell, 2013). Qualitative methods can be used to understand complex social processes, capture the essence of a phenomenon from the perspective of respondents, and to uncover respondent beliefs, values, and motivations (Curry *et al.*, 2009). The main motivation in choosing an explanatory sequential design is because the qualitative phase will allow for a clear understanding of some findings in the prior quantitative phase.

In qualitative research, data collection can be done in numerous ways. These include, but are not limited to, semi-structured and unstructured interviews, focus groups, literature, open-ended online questionnaires, or transcripts (Curry *et al.*, 2009; Creswell, 2013).

Semi-structured interviews are interviews in which the researcher aims to view the world through the lens of the respondent (Barriball & While, 1994). For semi-structured interviews, the researcher prepares a set of questions for the interview but is able ask follow-up questions to the

respondent. This allows for the researcher to gain more information or get more context regarding an answer from the respondent. Semi-structured interviews are also suited for the exploring the perceptions and opinions of respondents and enable probing for more information and clarification of answers (Barriball & While, 1994).

2.5. Conclusion

The journey of understanding wine consumer behaviour has proven to be a complex topic in the past. Therefore, an inquiry into sparkling wine consumer behaviour would require a research methodology that can assist a researcher to obtain a complete picture of both the product category and the consumer behaviour.

Qualitative and quantitative research each have a role to play in research, they both have their own strengths and weaknesses. The quantitative phase will aid in determining how the consumer perceives the product intrinsic, and the resulting qualitative will help in understanding some findings from the quantitative phase. By integrating the two research methodologies, a more in-depth view of the topic at hand can be gained. The chosen design, explanatory sequential design, allows for deeper understanding of consumer behaviour.

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Chapter 3: South African sparkling wine landscape, looking into product attributes and market analysis

3.1. Introduction

The production of bottle-fermented sparkling wine is increasing on a global scale, with an interest in emerging sparkling wine regions that produce quality sparkling wine (Kemp *et al.*, 2015). One of these emerging regions is South Africa, which produces Méthode Cap Classique (MCC). MCC is competing in the local and international markets with established products like Champagne and Cremants from France, Cava from Spain, Franciacorta from Italy, and Sekt from Germany.

This chapter explores the South African sparkling wine landscape, investigating sparkling wine over a span of ten years. Investigation questions were, how the producer number grew in the past couple of years, how the sparkling wine market compare to other alcoholic beverages and does the sensory of carbonated sparkling wine differ from that of MCC.

Two sources of information were mined; Platter's South African Wine Guide (Platters) spanning the period 2008 to 2017 and the South African Wine Industry Information and Systems (SAWIS) figures for 2015 to 2017. Platters is a wine information booklet containing information on wine styles and varieties that are produced annually in South Africa (van Zyl & Rossouw, 2018). SAWIS is an online platform that provides wine industry information including, but not limited to, market reports, grape and wine crop statistics, grape prices, price ranges of wine sold, and more (SAWIS, 2019). The data from Platters and SAWIS provide a picture of how the sparkling wine category has grown and changed over the years.

There are few formal research papers in the public domain regarding South African sparkling wine. The available published literature is scant and mostly addresses with the technical aspect of sparkling, including yeast characterization, and developed biotechnologies that could improve the sensory attributes of sparkling wine (Jolly, 1992; Torresi *et al.*, 2011). The available literature is an indication that there is a lack of research in respect to consumer insights in terms of sparkling wine.

This chapter will investigate the recent landscape of South African MCC producers and the sensory attributes of selected sparkling wine categories (MCC and non-MCC).

3.2. Materials and Methods

3.2.1. Platters Wine Guide and SAWIS Information

The Platters Wine Guide was consulted as it keeps track of the producers, products and the vintage ratings allows the establishment of the quality trend over the years, as well as an evaluation of the sensory descriptors associated with the vintage ratings. Information captured by

Platters for each entry, include the producer name, region of origin, grape variety used, price, whether it is organic, vintage, the bottle closure type, and quality rating. Between 2870 and 2880 entries in Platters were analysed (by means of distribution analysis) focusing on various aspects, including the producer, vintage, rating (0-5 stars in 0.5 increments), place of origin and sensory. The sensory descriptors used were from the sparkling wine category, which include MCC (secondary bottle fermented sparkling wine) (Burger *et al.*, 2011) and non-MCC (force carbonated sparkling wines). The sensory descriptors range from the years 2008 to 2017, and this section analysed the high rating MCC (4-5 stars), high rating non-MCC (3-3.5) and the low rating (0-1.5 stars) MCC and non-MCC. This led to 213 MCC products and 230 non-MCC products statistically analysed for the project, out of a total of almost 3000 products. All sensory descriptor terms were analysed together. Platters also keeps track of all the different carbonated wine products and allows for comparisons of the different sparkling wine products. SAWIS on the other hand keeps track of all wine industry related statistics, as well as history and background of the South African wine industry.

3.2.2. Standardisation and validation of Platter's sensory text mining

The raw data was received in an excel sheet from the publisher and processed manually. It was decided to exclude negative descriptors (e.g. not too dry, uncomplicated), since the objective was to extract the sensory descriptors. Reference to colour was not included because more than 60% of the entries had no reference to colour. Words relating to the description of the product were included although not all of them were sensory terms. The grape cultivars and time on lees were excluded. Descriptors that referred to an occasion or previous vintages were also excluded. All sensory descriptors were kept to a maximum of three words per descriptor, for ease of data processing, as it has been done before in a related study (Valente *et al.*, 2018). Further standardisation aimed to ease data processing without losing the meaning of a sensory word. Therefore, similar root sensory words were cleaned, because they would appear in different forms but mean the same thing, as shown in Table 3.1.

The process of text standardisation entailed the primary researcher cleaning the text data, as described above, followed by validation of the steps taken by other researchers working on the same project. These procedures have been used in prior studies and refer to standardisation of sensorial text data (Bécue-Bertaut, 2014; Kostov *et al.*, 2014; Valente *et al.*, 2018).

Table 3.1 The given Platter sensory blurb before standardisation and after standardisation.

Original sensory blurb	After text standardisation
Undemanding NV celebration sparkler. Carbonated sauv, chenin, colombar	-
Lovely onion skin-hued bubbly. Crunchy red apple & strawberry courtesy of pinot noir (41%) & creamy texture thanks to chardonnay; long savoury finish on 2013, rung above 2012	Apple, strawberry, creamy, savoury
Chard/pinot MCC, former barrel fermented, released after 5 years on lees. Latest 01 loads of character, delicious: toasted brioche, citrus peel richness, long lingering flavours. Potential to age few yrs.	Delicious, brioche, citrus, rich, lingering
Recalls 'Beliye Nochi' – bright midsummer nights of St Petersburg. Previous was fresh, very dry & lively 00 from chard/pinot (60/40), 01 only pinot, 4 years on lees, touch richer, creamier, enjoy soon to catch at peak.	Rich, creamy
Pinot noir-dominated 2014 bubbles named 'Cleo' for owners' soon-to-be daughter-in-law. Appetising entry, with delicious salty yeast autolysis in good evidence. Creamy citrus notes balanced by fresh acidity. Ends with unusual but attractive herbal twist.	Appetizing, delicious, yeasty, creamy, citrus, balanced, fresh acidity, herbal

3.2.1. Correspondence analysis

After the standardisation of the text, there were one, two- and three-word descriptors left. A frequency count was then performed and all words that appeared more than 20 times were subjected to correspondence analysis (CA). This method of data analysis is used to examine the relationship between categorical variables, by visualising the association between categories (Sourial *et al.*, 2010). CA is suitable for data containing large amounts of information, which in this study was applicable, there were 2877 Platter entries to be cleaned and the sensory blurbs were also rather complicated. The two variables for which the associations were investigated were the sensory blurbs and the sparkling wine product rating. From there, the variables that associate above a certain percentage with each other are then placed on a bi-plot to visualize the associative relationship. The use of CA for wine data has been done before by Melo *et al.*, 2010 to evaluate the association between occasion of wine drinking and the amount of wine drunk by consumers (Melo *et al.*, 2010).

The software used was Statistica version 13. TIBCO Software Inc. (2017). Statistica (data analysis software system), version 13. <http://statistica.io>.

3.3. Results and Discussion

The purpose of this Chapter was to explore the sparkling wine landscape. Data mining was done by distribution analysis. The results look at the positioning of sparkling wine amongst other

alcoholic beverages, as well as other wine products, and the producer landscape. Furthermore, this chapter explored the product landscape by investigating different sparkling wine styles and vintage ratings as a quality indicator, and the corresponding sensory descriptors of MCC and non-MCC products.

3.3.1. Market analysis and producer landscape

Figure 3.1 shows that sparkling wine has the smallest market share in the South African beverages market. South Africa is known as one of the new world wine producing countries, and therefore does not have a big wine drinking culture (Ndanga *et al.*, 2010; Gevers, 2019). South Africa is a beer drinking country, that is why beer has the largest market share. RTD's are ready to drink beverages, these are premixed beverages that are packaged and ready for consumption after purchase.

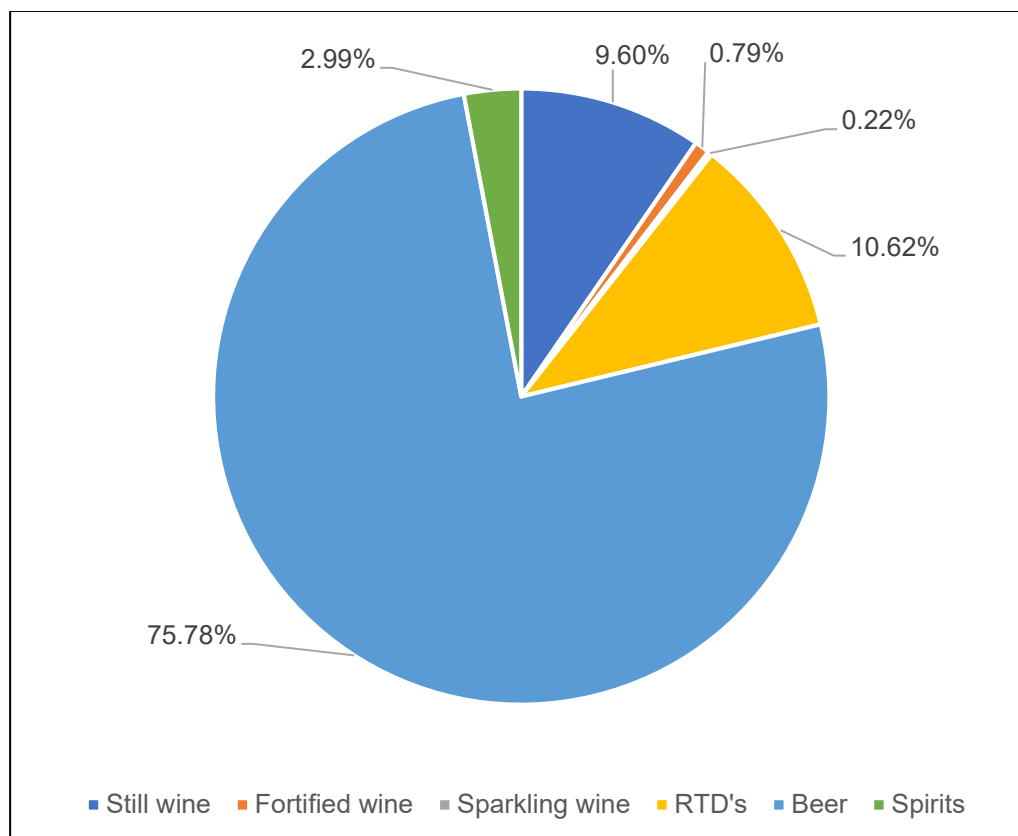


Figure 3.1 Alcoholic beverage market share based on the liters consumed in South Africa in 2017 (adapted from SAWIS, 2017)

Sparkling wine having the smallest alcoholic beverage market share in South Africa presents itself as an opportunity for growth and a challenge on getting more people to consume sparkling wine. Premiumisation, the consumption of premium goods, is growing (Cha, 2018). Premiumisation provides an opportunity for the sparkling wine industry to also grow and evolve. Sparkling wine is already considered a premium product by consumers (Nielsen, 2016; Peens, 2018). Therefore, tapping into this trend might allow the category to grow.

According Figure 3.2, there are more sparkling wine products being imported into South Africa than are being exported. Figure 3.2 also shows that other wine products such as still wine

and fortified wine are being exported more than imported. Still wine is being imported and exported more than both fortified and sparkling wine.

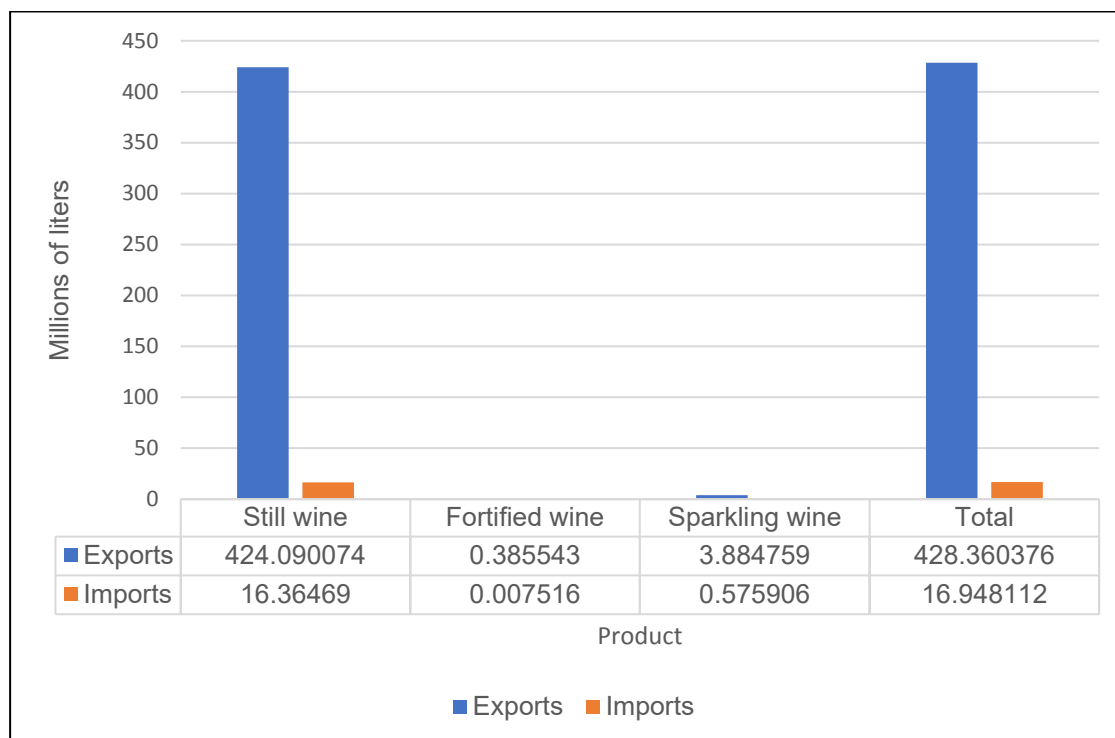


Figure 3.2 total quantity of exports and imports of South African wine products (SAWIS, 2017)

In 2010, Ndanga, *et al.*, stated that the growth of the South African wine market relies on exports (Ndanga *et al.*, 2010). From Figure 3.2, South Africa does export more still wine than it imports. This difference in exports presents itself as a growth opportunity for the sparkling wine product category.

According to Howe in 2017, MCC exports to Africa, the Far East and the USA are growing (Howe, 2017). Therefore, in the coming years the sparkling wine export should see growth.

In Figure 3.3 it is evident that from the year 2014 there has been a steady increase in the consumption of sparkling wine and per capita consumption of wine in South Africa. Exploring the consumption trends indicates that even though South Africa is a beer drinking nation, there is an increase in the consumption of wine and sparkling wine products.

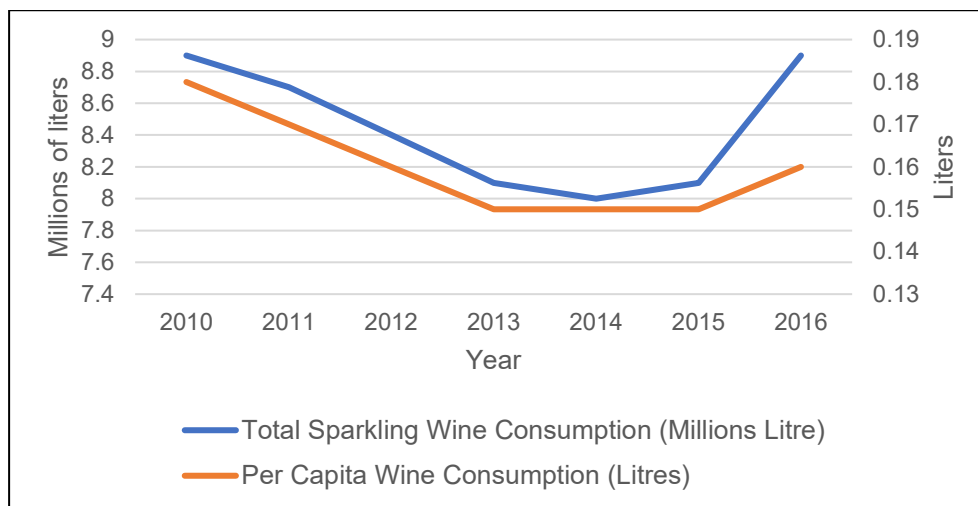


Figure 3.3 Total sparkling wine and per capita wine consumption in South Africa (SAWIS, 2017)

Figure 3.3 is showing that the consumption of sparkling wine is growing, and Figure 3.4 shows an increasing number of sparkling wine producers entering the market, from 99 in 2008 to 250 in 2017.

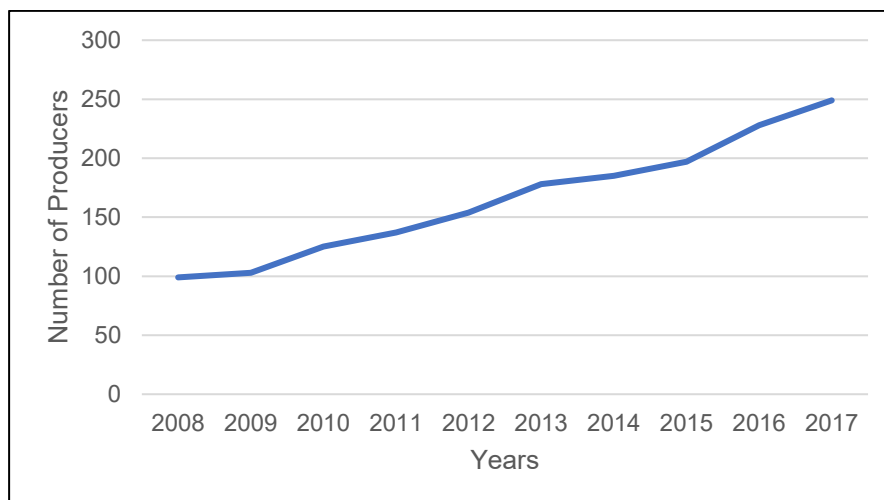


Figure 3.4 Number of producers in the MCC market from 2008 to 2017

The sparkling wine category is split into two groups in Platters, namely MCC and non-MCC. MCC refers to sparkling wine that is made by secondary bottle fermentation on lees contact, and the non-MCC is the force carbonated sparkling wine. In Figure 3.5, the grey line shows the total growth of the sparkling wine category from 2008 to 2017. The number of non-MCC products has stayed somewhat the same, whereas the growth of MCC has substantially increased in that period. In the beginning, 2008, there were more non-MCC products than MCC, and by 2017 there were more than double the number of MCC products than non-MCC. Figure 3.5 indicates that MCC is a sought-after product by consumers because the amount of products have drastically increased, and from Figure 3.3 there is an increase in the consumption of sparkling wine.

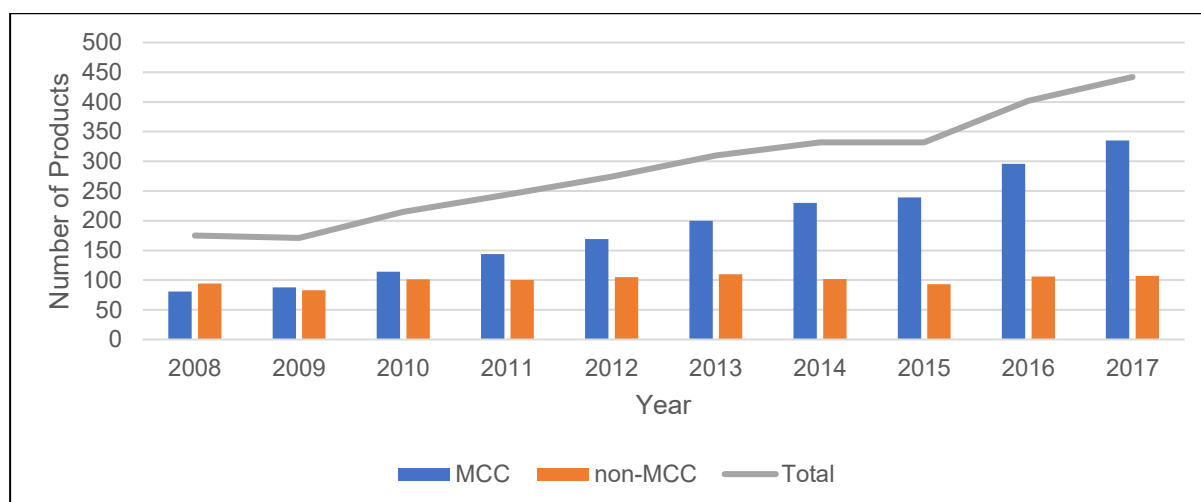


Figure 3.5 Sparkling wine product category growth over 10 years

3.3.2. Sparkling wine product landscape and sensory descriptors

Within the MCC and non-MCC categories different styles of sparkling wine are submitted based on the residual sugar in the sparkling wine.

Figure 3.6 and Figure 3.7 show that there are certain styles of MCC and non-MCC wines being produced more than others. Within MCC the two main styles produced in large quantities are “white dry” and “rosé dry” (Figure 3.6). Whereas with non-MCC there are three popular styles that are produced, “rosé, off-dry semi-sweet”, “white, dry”, and “white, off-dry, semi-sweet” (Figure 3.7). Figure 3.6 and Figure 3.7 are not representative of all the products on the market but those that wine producers decided to submit into Platters for review by a panel.

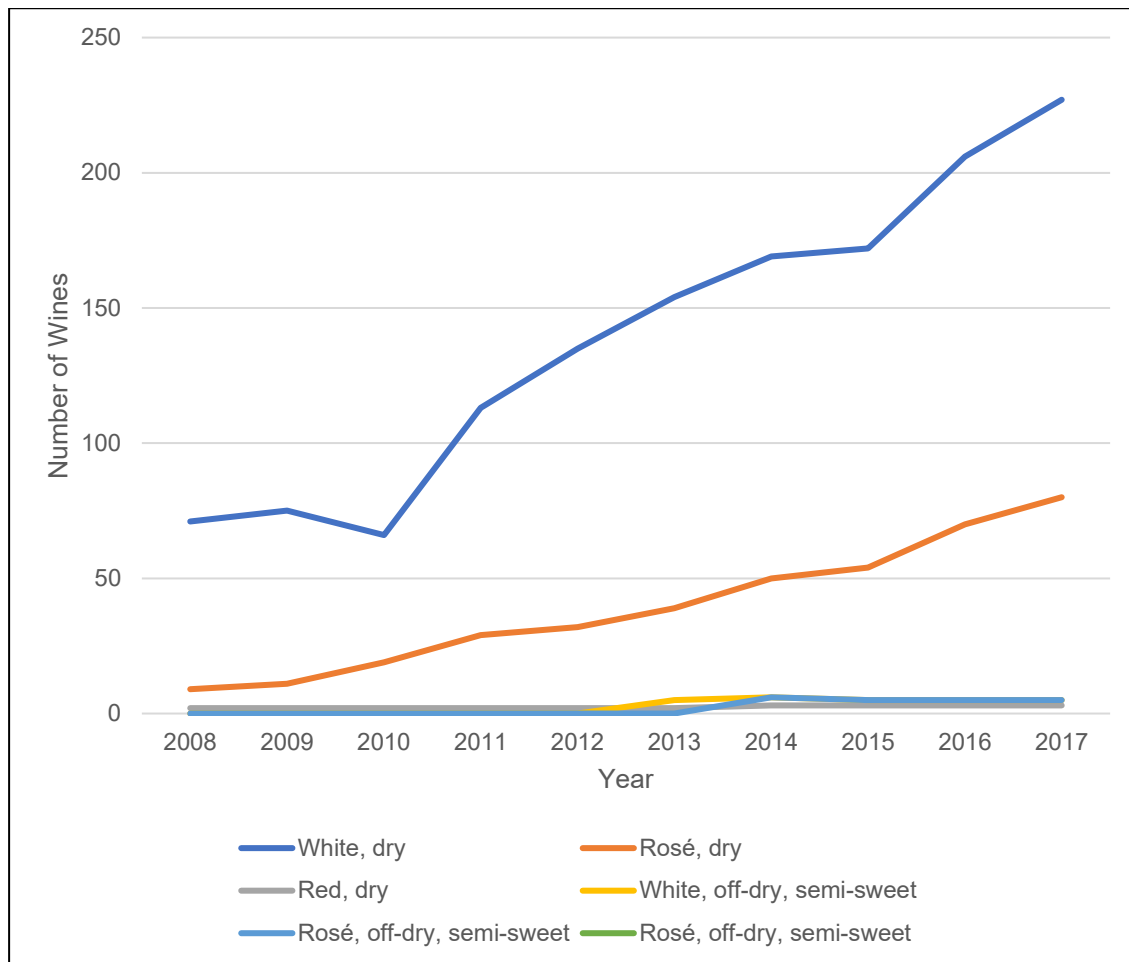


Figure 3.6 Growth of different styles of MCC from 2008 to 2017.

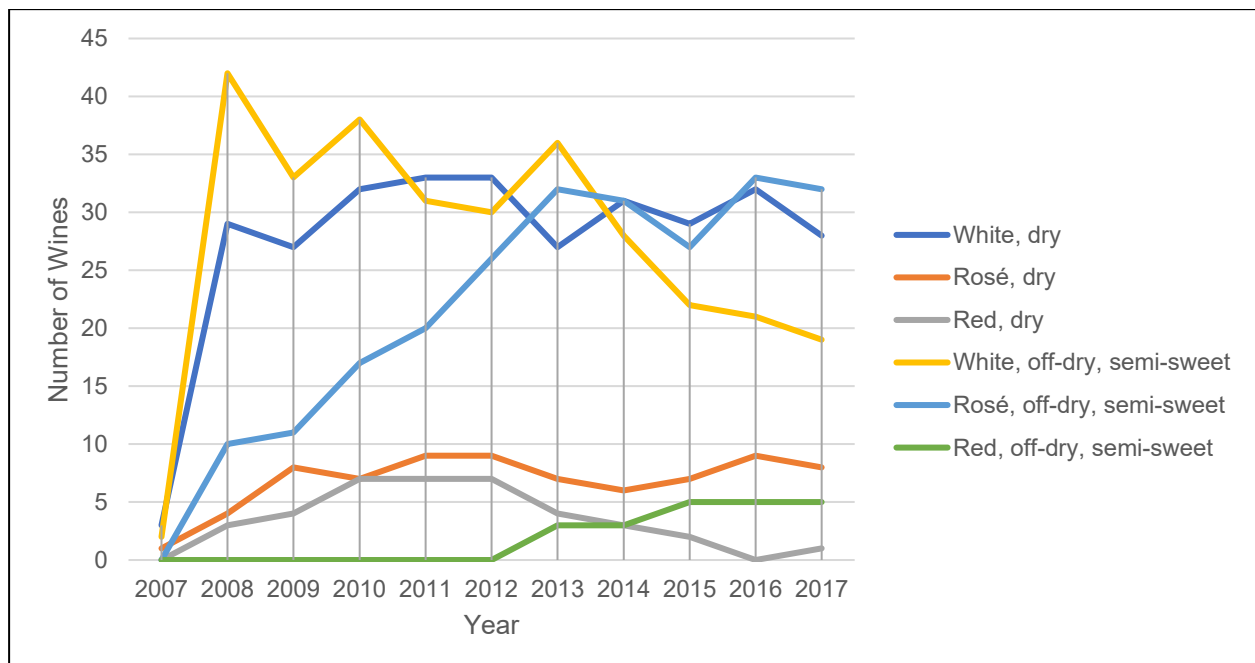


Figure 3.7 non-MCC product style growth from 2008 to 2017.

Figure 3.8 is the average Platter vintage rating given by the judges. Overall, data suggests there is an increase in the quality of sparkling wine being produced over time. The first occurrence of 5-star rating was in 2011.

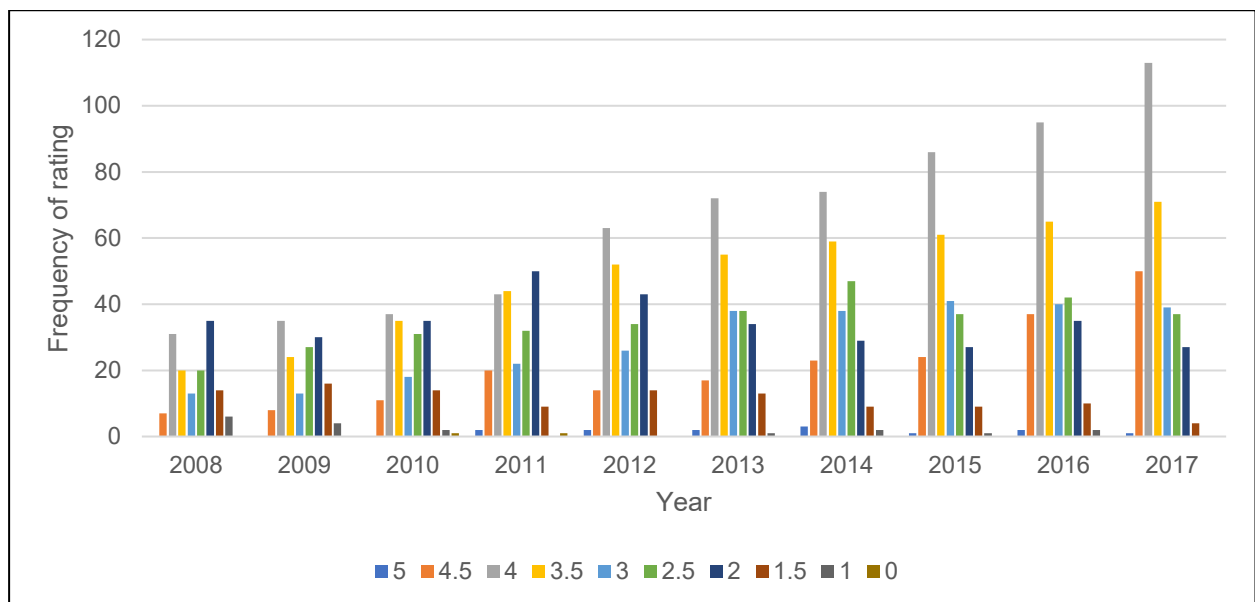


Figure 3.8 Average Platter vintage rating of the sparkling wine category from 2008 to 2017.

In Figure 3.9 and Figure 3.10 there is a clear difference in the vintage ratings of the MCC and non-MCC. With the MCC there is an increase in the 4-star, 4.5-star, and 5-star ratings over the years, this is indicative of the increase in quality of MCC produced (Figure 3.9). With the non-MCC, there is no 5-star, it only goes as high as 4.5-star. With regard to the non-MCC, data suggests that there has been an increase in the number of products that receive 2-star, 2.5-star, 3-star, and 3.5-star (Figure 3.10). This could imply that MCC seems to be of higher quality than non-MCC. It also brings to question, are these products evaluated using the same criteria as they are made differently and should thus be judged differently.

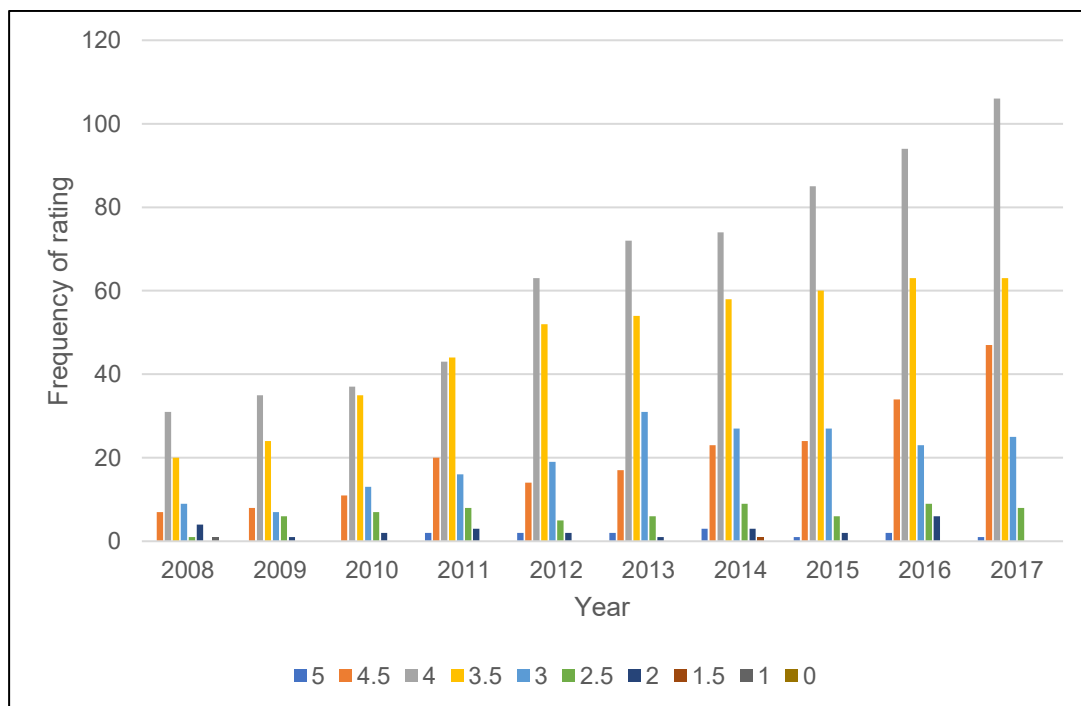


Figure 3.9 MCC Platter vintage rating frequency from 2008 to 2017.

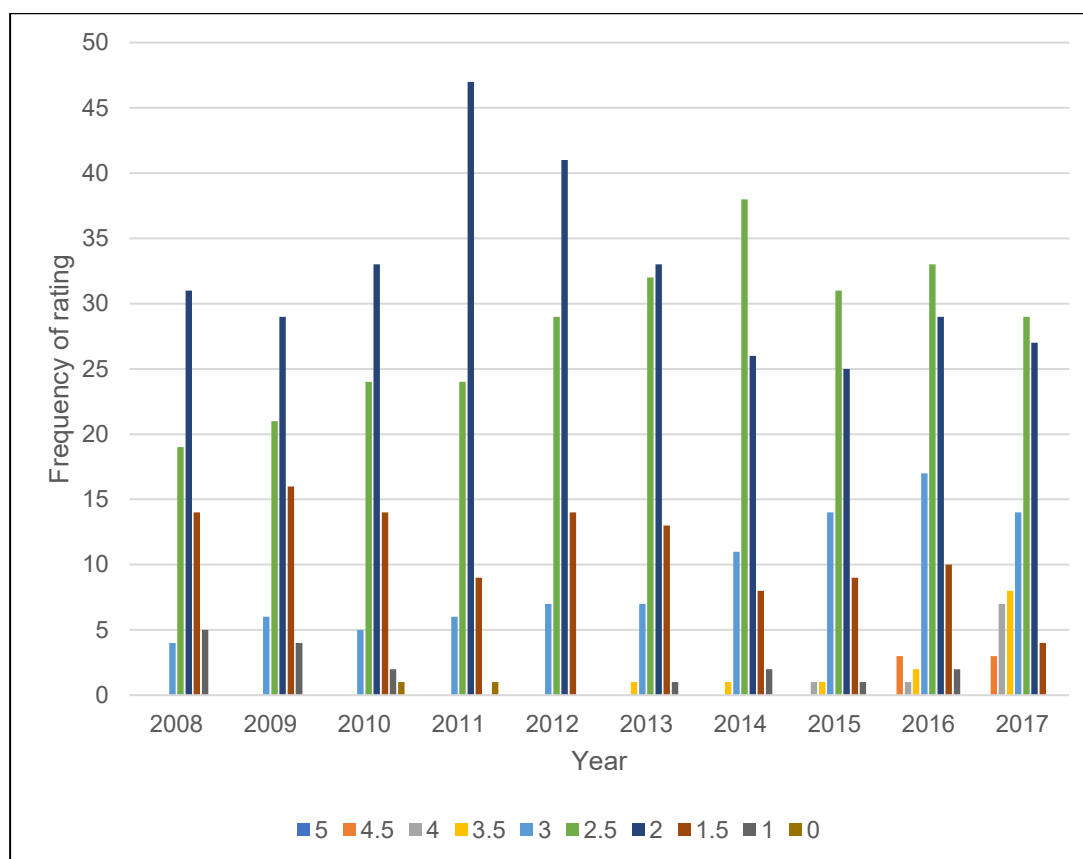


Figure 3.10 non-MCC frequency of Platter rating from 2008 to 2017

Further analysis was done on the sensory terms used by the Platters Wine Guide judges to describe MCC and non-MCC sparkling wine, this analysis was focused on the high and low vintage rating sparkling wines. A correspondence analysis plot was established to evaluate and visualize how these descriptors and the sparkling wine correspond to each other on a bi-plot (Figure 3.11).

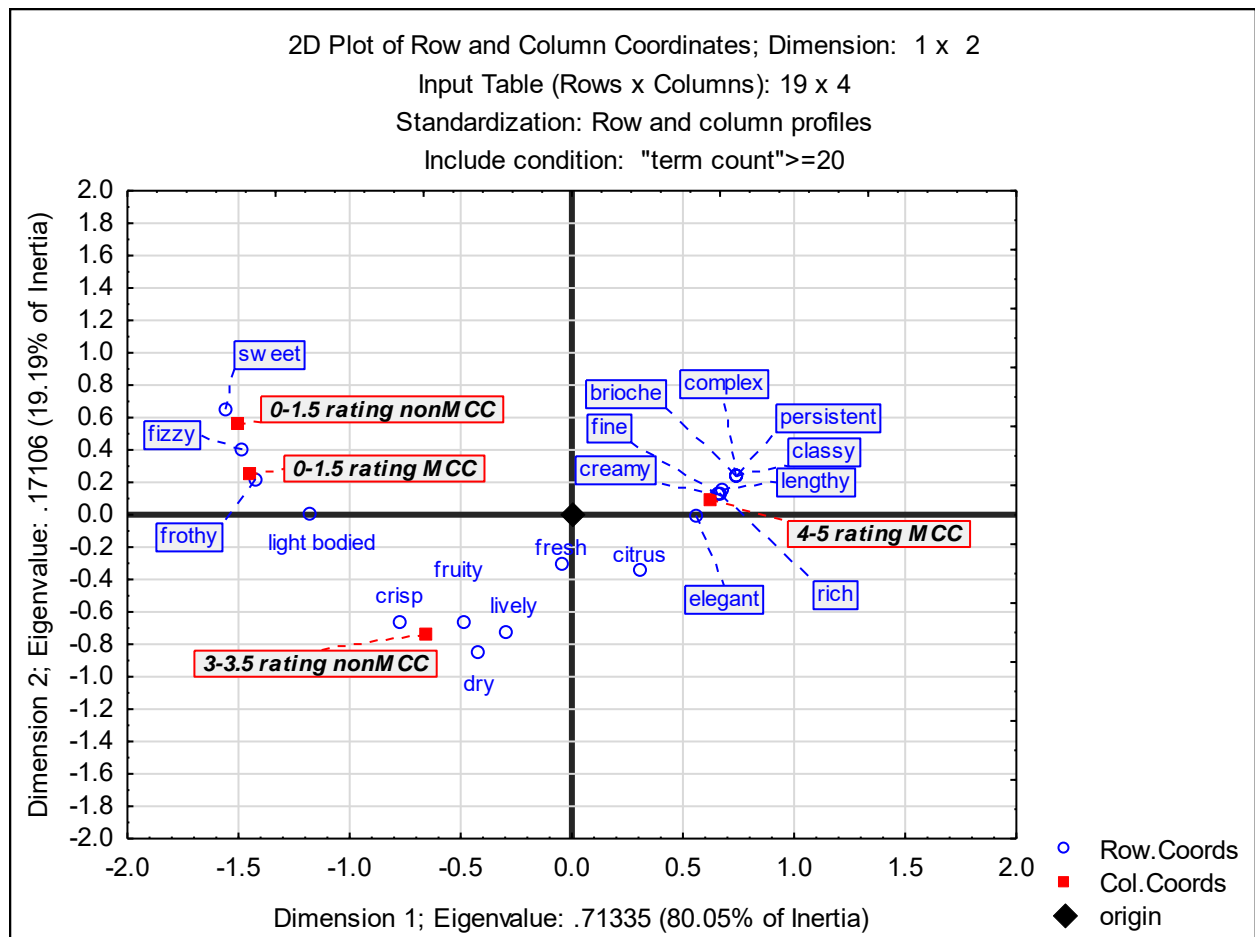


Figure 3.11 Correspondence Analysis (CA) bi-plot showing how the sensory descriptors correspond to the low rating and high rating MCC and non-MCC.

Figure 3.11 indicates that there are differences in the sensory descriptors used for high vintage rating and low vintage rating sparkling wine according to Platters. There is not much of a difference between the low rating MCC and non-MCC sensory descriptors used, the top four used are “sweet”, “fizzy”, “frothy”, and “light bodied”. However, there are differences in the sensory descriptors used for high rating MCC and non-MCC. This can be seen by the proximity of the sensory descriptors to the MCC or non-MCC, and the proximity of these MCC and non-MCC sensory descriptor clusters to each other.

There have been studies done around the world where associations between two variables, namely sensorial attributes and specific kinds of wine, were examined (Genovese *et al.*, 2007; Esti *et al.*, 2010). Similar to those studies, Figure 3.11 illustrates the correspondence of sensory descriptors used by the Platters panel for the rating of MCC and non-MCC wines. There was a difference in sensory descriptors used for the MCC and the non-MCC, as well as differences in sensory descriptors used for high ranking and low ranking MCC and sparkling wine. During the secondary fermentation of MCC, when the base wine is in contact with the yeast there are compounds released which have a large influence on sparkling wine’s quality (Torresi *et al.*, 2011).

3.4. Conclusion

The aim of this chapter was to analyse readily available information databases about the sparkling wine industry, to explore the South African sparkling wine landscape from 2008 to 2017.

Sparkling wine has the lowest alcoholic beverage market share amongst alcoholic beverages consumed by South African consumers. However, per capita wine consumption and sparkling wine consumption are increasing, and there are more sparkling wine products entering the market every year.

The data suggests that there is an increase in the quality of sparkling wine products produced every year. There were two sparkling wine products investigated, MCC and non-MCC. MCC seems to be doing well by averagely having a higher vintage rating than non-MCC.

The presence of bubbles makes the sensory of sparkling wine a bit more complicated than that of still wine. There are sensory differences in terms of sensory descriptors used to describe MCC and non-MCC sparkling wine that have a high Platter vintage rating and the ones with a low vintage rating. The MCC sensory descriptors are as a result of a range of factors including time on lees, and for non-MCC they generally tend to be characteristic of the grape variety used.

Consumption of sparkling wine in South Africa is increasing. There is a variety of good quality products on the market. However, the industry has little idea how the consumers perceive the product.

The growth of the MCC market in SA means that industry needs to better define the market and sensory appeal of the product to in order to adequately consumer needs.

There has been no formal research done, thus far, relating to MCC in South Africa, therefore this is going to be a consumer research study aiming to provide a new perspective.

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Chapter 4: Consumer sensory perceptions of Méthode Cap Classique sparkling wines

4.1. Introduction

Wine sensory profiling used in the past has been to investigate how successful a product is with consumers (Francis & Williamson, 2015). To date, there were no formal published works identified regarding consumers' sensory perceptions of Méthode Cap Classique (MCC), however such research is available on still wine. The consumer sensory perception research done on still wine has helped the wine industry develop appropriate strategies in better connecting with the consumer, communicating with them and aid in developing effective marketing strategies that better target the consumer (Mapheleba, 2018; Weightman, 2018).

This chapter focuses on consumer sensory perceptions of MCC. To investigate the consumer sensory perceptions of MCC, the method chosen was consumer tasting a tasting was done to gain insights into what South African consumers enjoy with regards to MCC. In Chapter 3 research was done on the different styles of MCC available in South Africa (SA). The aim was to choose entry level MCC wines available in SA, in the end five styles of MCC were chosen for the consumer tasting; a brut, brut rosé, demi sec, demi sec rosé, and a low alcohol option (van Zyl & Rossouw, 2018). A questionnaire probed into tasting, liking, price perception, and involvement. A descriptive sensory profiling technique called Check-All-That-Apply (CATA) was used to investigate which sensory attributes the consumers recognised (Valentin *et al.*, 2012).

The general consumer landscape is shifting, and consumers want to be heard (Hall, 2013). Wine quality for years, or even decades, had generally been defined by the flavour and taste perception of experts as well as by chemical analytical measurements (Norris & Lee, 2002). Although this can be advantageous, there are different kinds of consumers and they all have different MCC preferences.

This quantitative section forms part of a bigger mixed methods research that investigated how the South African consumer perceives MCC in terms of its intrinsics.

4.2. Materials and Methods

4.2.1. Méthode Cap Classique selection

For this experiment the chosen price bracket of the MCC styles was R100 to R150. The researchers went to supermarket liquor stores such as Game Liquor, Checkers Liquor, Tops, Market Liquor, Woolworths and two different Pick n Pay Liquors in different parts of Stellenbosch. A list of what each store has available was made, which included the MCC name brand and the style(s) of MCC available. The researcher evaluated which MCC styles were found in either all

the stores or most of the stores. Then, the styles available were reviewed, and the following were chosen: brut, brut Rosé, demi sec and demi sec rosé. Another style included but not as widely available was a low alcohol or low kilojoule option. The final list was made avoiding brand duplication.

4.2.2. Questionnaire Assembly

The questionnaire was done using guidelines from Peterson, 2013 quantitative questionnaire design guideline (Peterson, 2013) (Addendum 1). The order of the questionnaire sections were as follows: Wine Evaluation, Familiarity, Demographics and Wine Behaviour and Involvement. Wine evaluation also consisted of a CATA list of the MCCs' sensory descriptors. The order of the sections was important because there were five MCCs for the respondents to evaluate, therefore respondent fatigue was something to consider.

4.2.3. CATA list assembly

The CATA list was included because from this list respondents had to pick which sensory attributes they were familiar with and rate the liking. Numerous sources were consulted, from journal articles, to winemakers and the MCC fact sheet available online. From the sources, a list of 25 terms was compiled. This list comprised of sensory terms relating to all five styles of wine chosen for the consumer tasting. The liking was a 7-point hedonic scale. 1=I do not like this at all, and 7=I like this a lot. This can be viewed in Addendum 1.

4.2.4. Consumer recruitment

The consumer recruitment was done via email correspondence. The set criteria were that the participants had to have consumed MCC or sparkling wine before, they should be interested in MCC and sparkling wine, and should be of legal drinking age (18 years old in South Africa).

4.2.5. Consumer tasting

The consumer tasting took place at the Sensory Laboratory at the Department of Viticulture and Oenology building at Stellenbosch University. There, respondents sat down in their own cubicle with the five MCC wine samples placed in front of them. The samples were served in a random order for each respondent coded with a three-digit code. The MCC wines were poured just before the respondent sat down, so the MCC wines were still chilled. The session would take between 15 and 35 minutes depending on the respondent. MCC wine was served in ISO tasting glasses covered with Petri dishes as lids, 25mL was the pouring amount. Data capturing involved the use of questionnaire and it was a computerised process.

4.2.6. Statistical analysis

The questionnaire was filled in on an online software called Compusense and exported to Excel.

For the statistical analysis, Statistica (TIBCO Software Inc. (2017), Statistica (data analysis software system), version 13. <http://statistica.io>.) was used.

For comparison of liking scores etc. between wines and consumer groups, mixed model ANOVA (analysis of variance) as done with the consumers as random effect, and the wines and groups (where applicable) as fixed effects. For post hoc testing Fisher Least Significant difference (LSD) testing was used.

Correspondence analysis was used to investigate relationships between wines and descriptors.

Multiple factor analysis was used to investigate relationships between liking scores, chemistry measurements and descriptors. For descriptors, the standardized residuals coming from the correspondence analysis were used.

4.3. Results and Discussion

4.3.1. Respondent demographics

At the end of the tasting recruitment and tasting sessions, a totally of 278 respondents took part in the study but only 275 response could be used. The others were excluded because the respondents did not complete the questionnaire.

In Figure 4.1 the majority (60%) of the respondents were within the 18-25 year-old age group. This was to be expected because Stellenbosch is a town with a university and the tasting took place on the university campus.

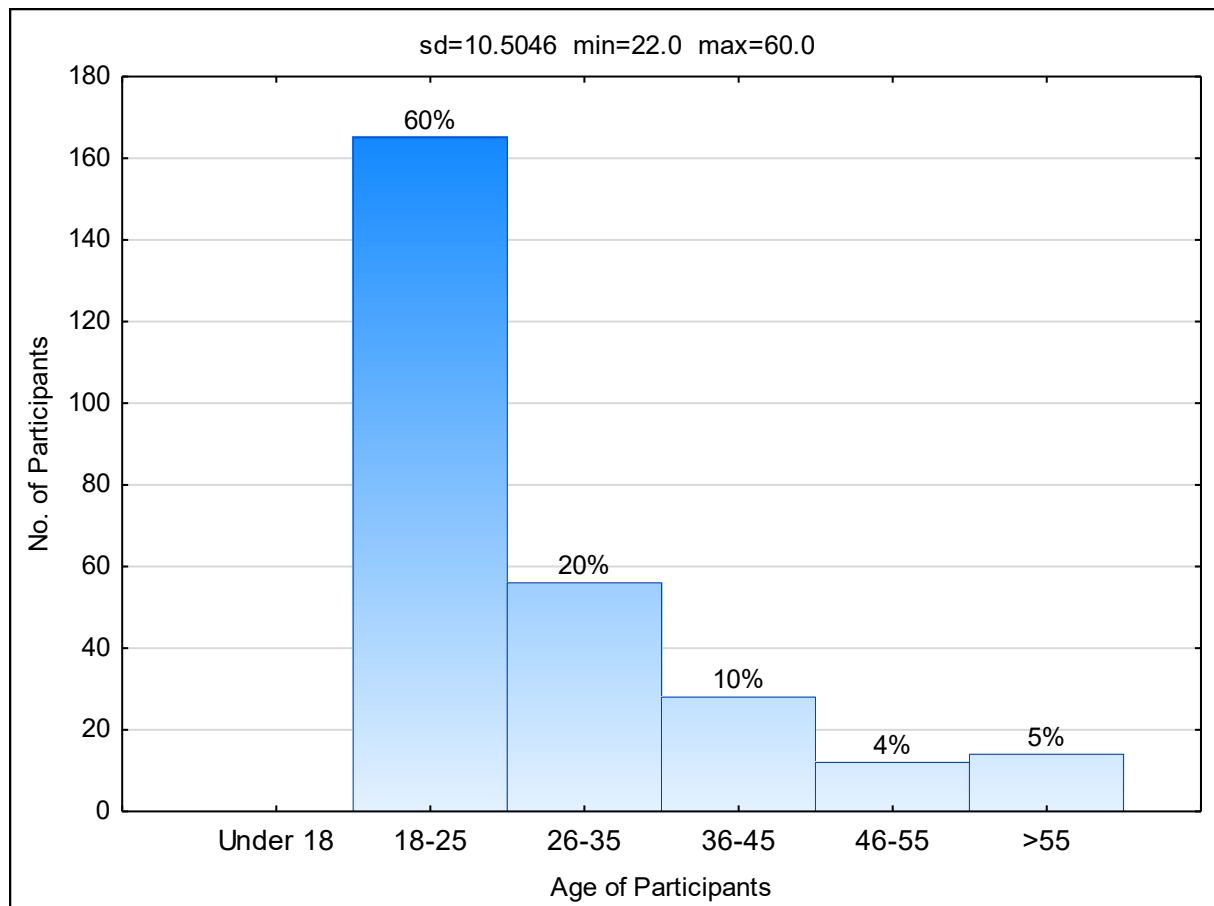


Figure 4.1 The age distribution of all the respondents that took part in the study.

On Figure 4.2 there were more females present at the tasting than males.

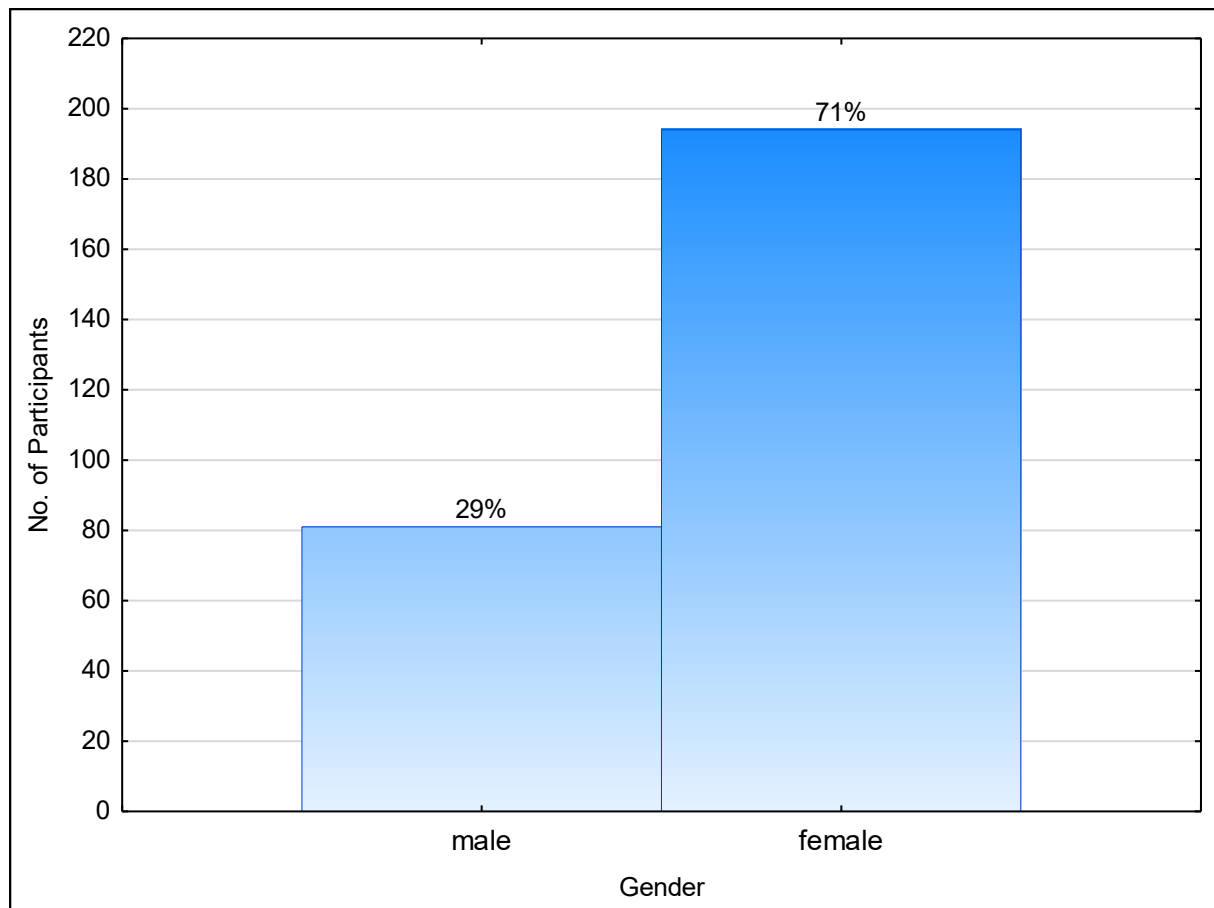


Figure 4.2 Gender distribution of the respondents.

On Figure 4.3 just more than half of the respondents were ethnically white, and a similar percentage of African/black and coloured ethnic group.

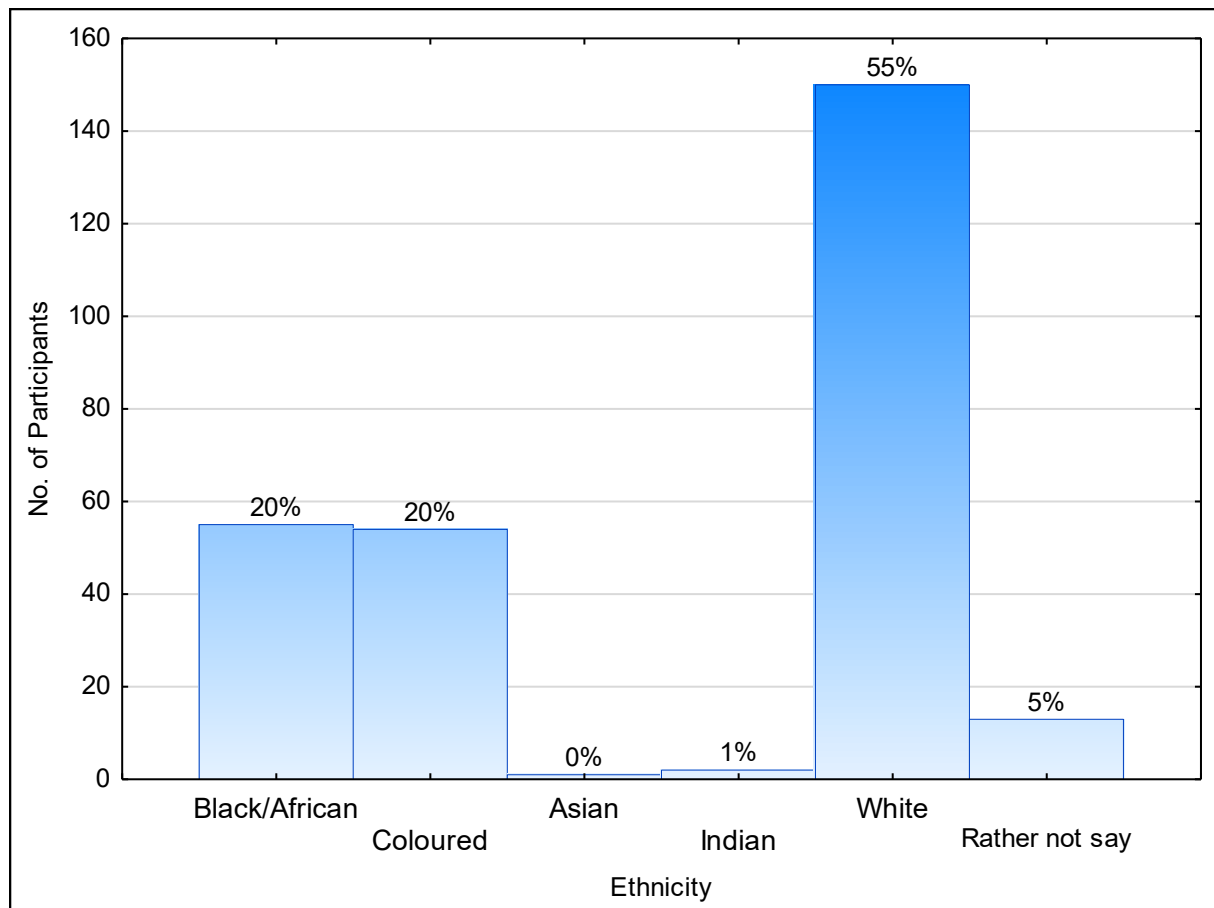


Figure 4.3 Distribution of the different ethnicities present at the tasting.

4.3.2. Respondent liking and likelihood to buy MCC

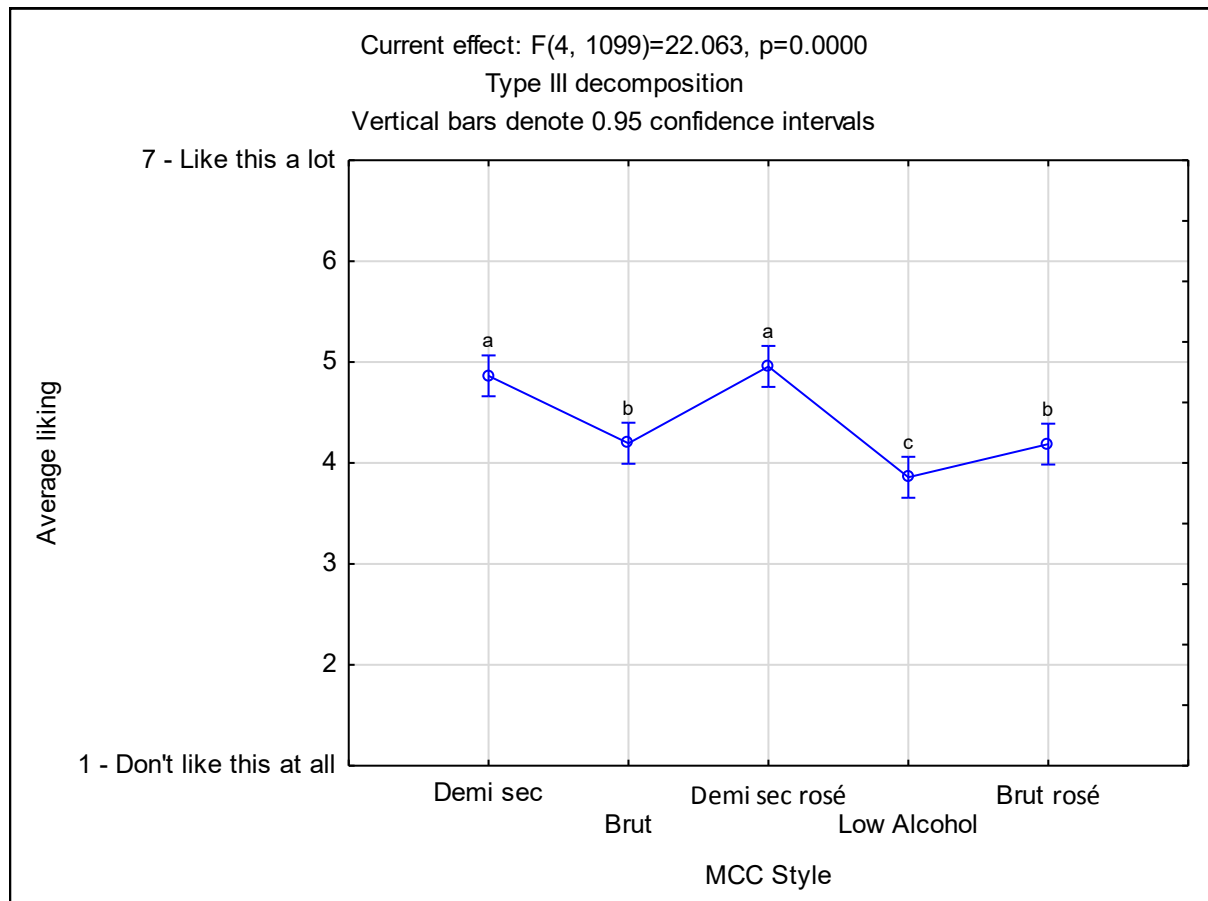


Figure 4.4 The average liking score given by respondents for the different styles of MCC tasted.

For liking, there was a significant statistical difference between the liking if the different styles of MCC ($p<0.01$) (Figure 4.4). The respondents liked the demi sec and demi sec rosé the most, and the least liked was the low alcohol MCC style.

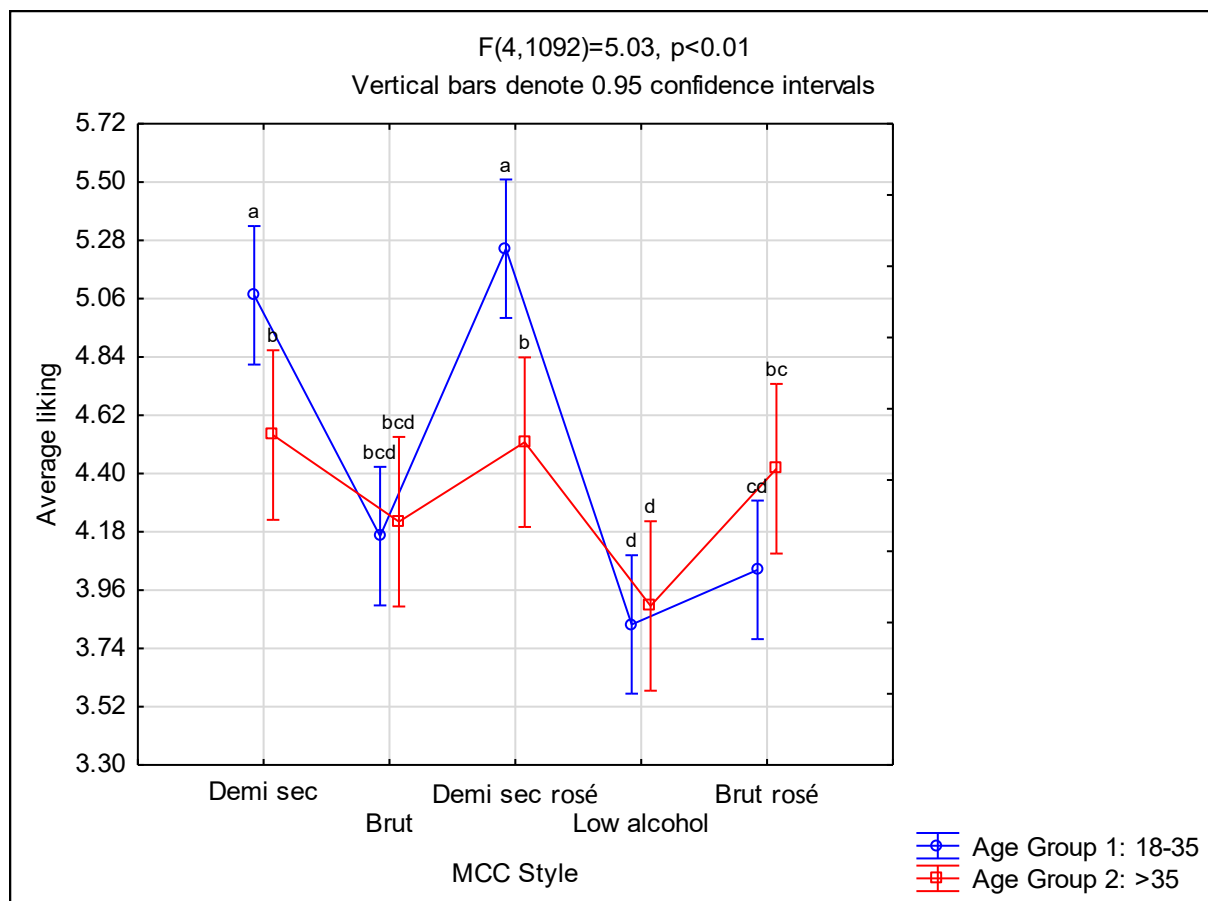


Figure 4.5 Respondent liking of different styles of MCC according to age. The scale was 1=I do not like this at all, and 7=I like this a lot. The graphs scale was amended for clarity.

In Figure 4.5, there was a significant statistical difference in how the two age groups ranked their liking of the different styles of MCC ($p<0.01$). Age Group 1 liked the demi sec and the demi sec rosé, and even though Age Group 2 showed the same result, there was a significant statistical difference between the two age groups. Age Group 1 likes the demi sec and demi sec rosé, while they don't like the low alcohol and the brut rosé as much. Age Group 2 does not show as much variability in the liking of the different MCC styles when comparing to the graph of Age Group 1. Both Age Group 1 and Age group 2 liked the low alcohol option the least.

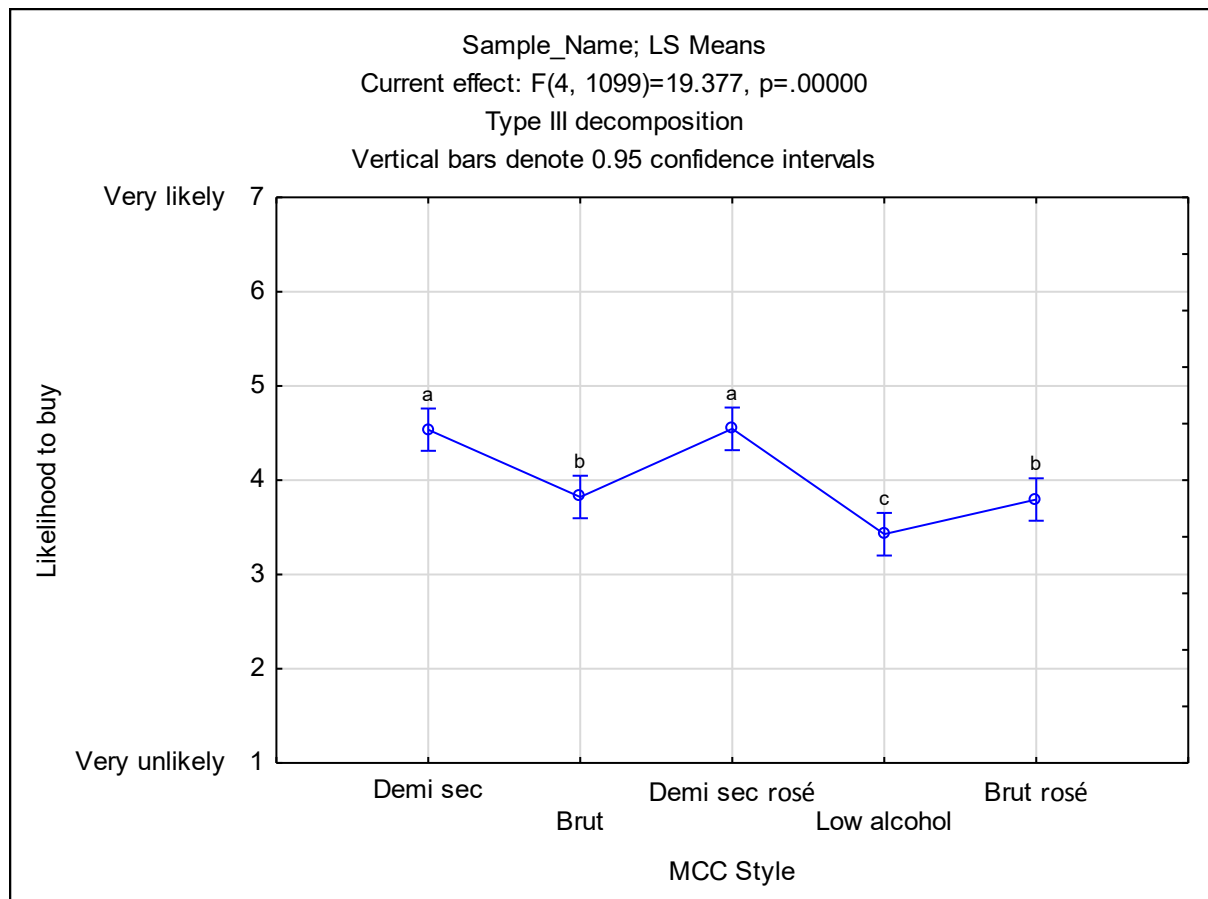


Figure 4.6 Respondents' likelihood to buy different styles of MCC.

There was a statistically significant difference in the likelihood of the respondents to buy different styles of MCC ($p < 0.01$) (Figure 4.6). The respondents were more likely to buy the demi sec and demi sec rosé, than they were to buy the low alcohol, while the brut and brut rosé were in the middle. In Figure 4.6, the low alcohol is just at the midpoint of the liking scores, therefore the respondents are likely to buy the different styles of MCC.

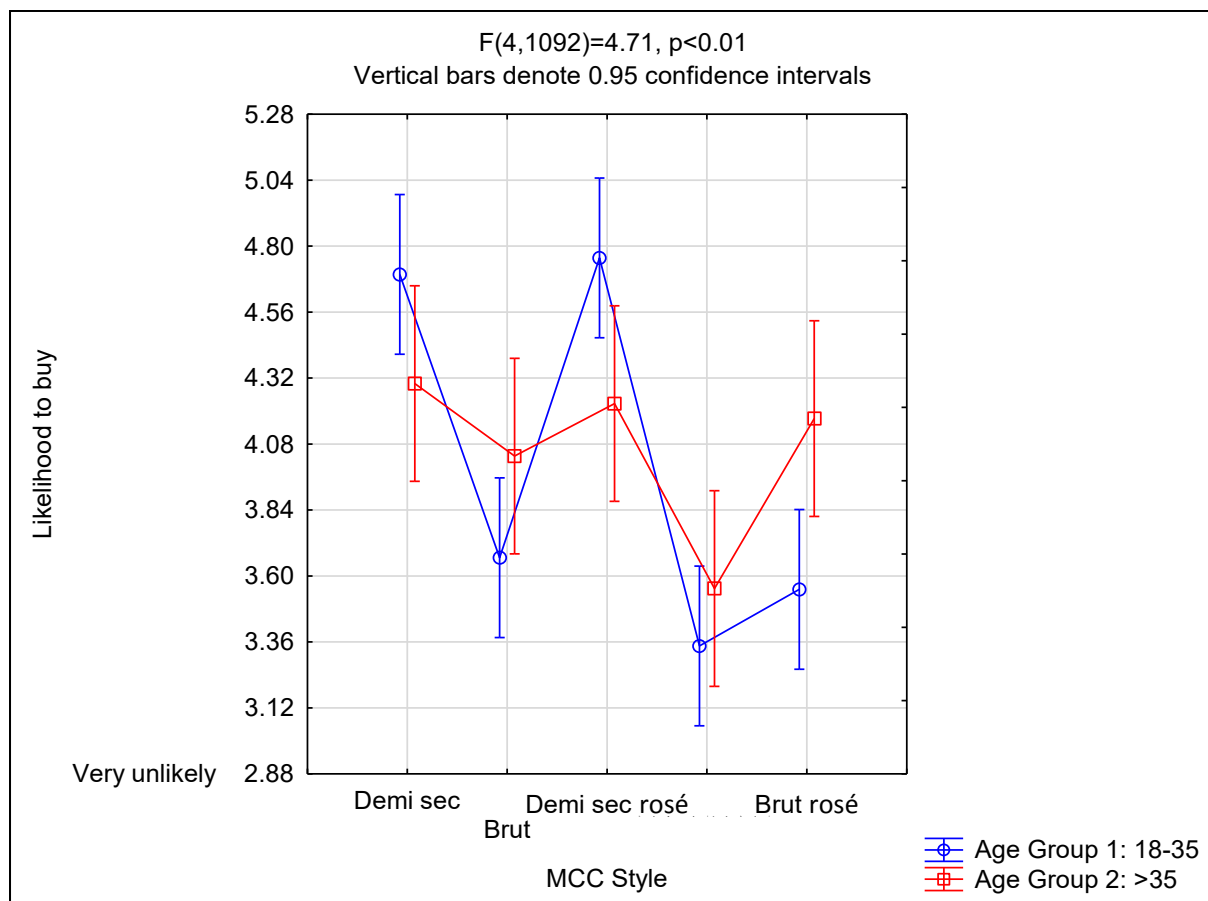


Figure 4.7 Respondents age groups and their likelihood to buy different styles of MCC. The scale was 1=very unlikely, and 7=very likely. The graph scale was amended for clarity.

In Figure 4.7 there is a statistically significant difference in how the two age groups indicated their likelihood to buy the different styles of MCC ($p < 0.01$). Age Group 1 respondents are more likely to buy the demi sec and demi sec rosé, while Age Group 2 are more likely to buy the demi sec, demi sec rosé, and the brut rosé. For both age groups, the low alcohol was the least likely to be bought. Although there is a statistically significant difference in the two age groups' likelihood to buy a certain style of MCC, the slopes of the two age groups' graphs are the same.

Studies done have found that purchase intent with regards to wine was influenced by liking, price perception, and packaging (Atkin & Thach, 2012; Tang *et al.*, 2015). From an intrinsic perspective the respondents like the MCC product intrinsic, and the results presented in Figure 4.3 corroborate these studies, even though the focus was MCC. The graph slopes for the liking are akin to those of likelihood to buy, therefore liking and purchase intent or likelihood to buy have an influence on each other.

Millennials (part of Age Group 1: 18-35 years) have been stated confirming that liking the taste of wine is the main reason why they drink wine, while conversely not liking the taste was by far the most important reason why they do not drink wine (Nowak *et al.*, 2006; Bruwer *et al.*, 2011). The findings from Figure 4.4 and Figure 4.6 show that when the respondents like the taste of a specific style of MCC, they also state that they are likely to purchase it.

4.3.3. Price perception of MCC based on intrinsic evaluation

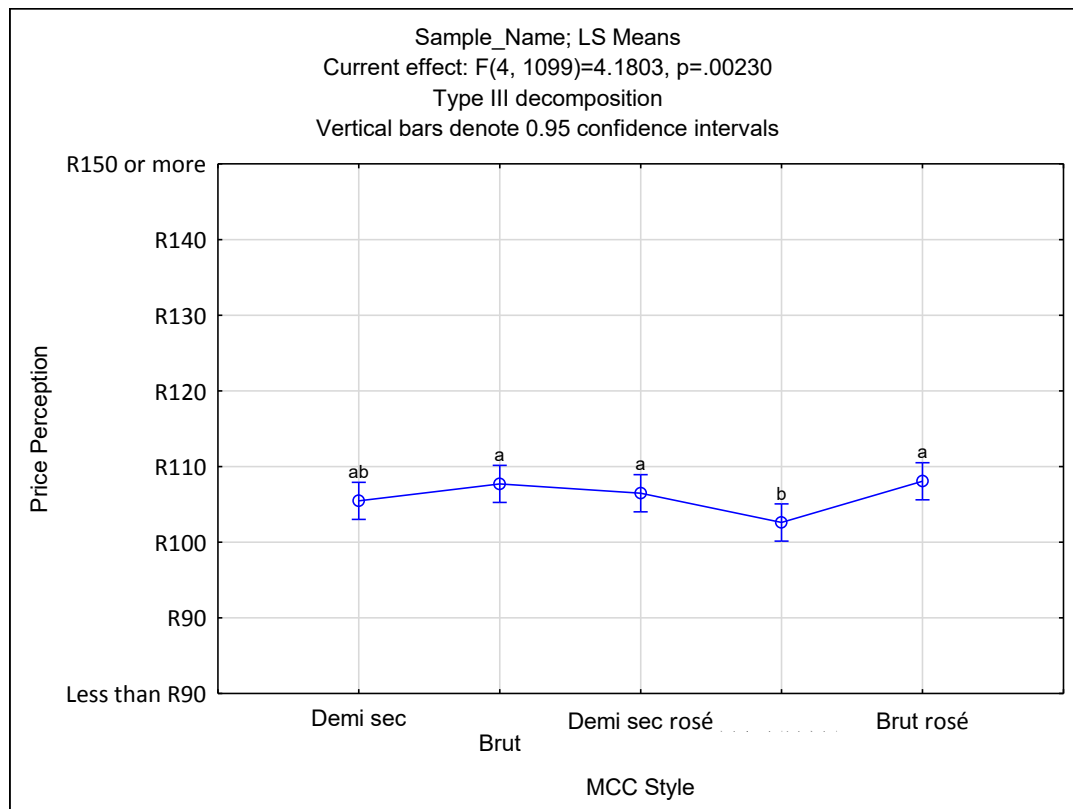


Figure 4.8 Respondents' price perception of the different styles of MCC.

The respondents' price perception of the different styles of MCC was in the R100 and R110 price bracket (Figure 4.8). There is a statistically significant difference between the price perception of the different styles ($p < 0.05$). The respondents view the brut, brut rosé, and demi sec rosé as slightly more expensive than the low alcohol.

Wine consumer awareness of particular wine brands represents a foundation for generating these consumers' willingness to pay for local wines (Hollebeek *et al.*, 2007). Compared to the actual price of the MCC in Table 4.1, the respondents' price perception based on the intrinsic seem to be low.

Table 4.1 Retail price of chosen MCC styles.

MCC Style	Retail Price
Demi sec	149.99 Rands per bottle
Brut	139.99 Rands per bottle
Demi sec rosé	174.99 Rands per bottle
Low alcohol	114.99 Rands per bottle
Brut rosé	169.99 Rands per bottle

4.3.4. Preference ranking of different styles of MCC

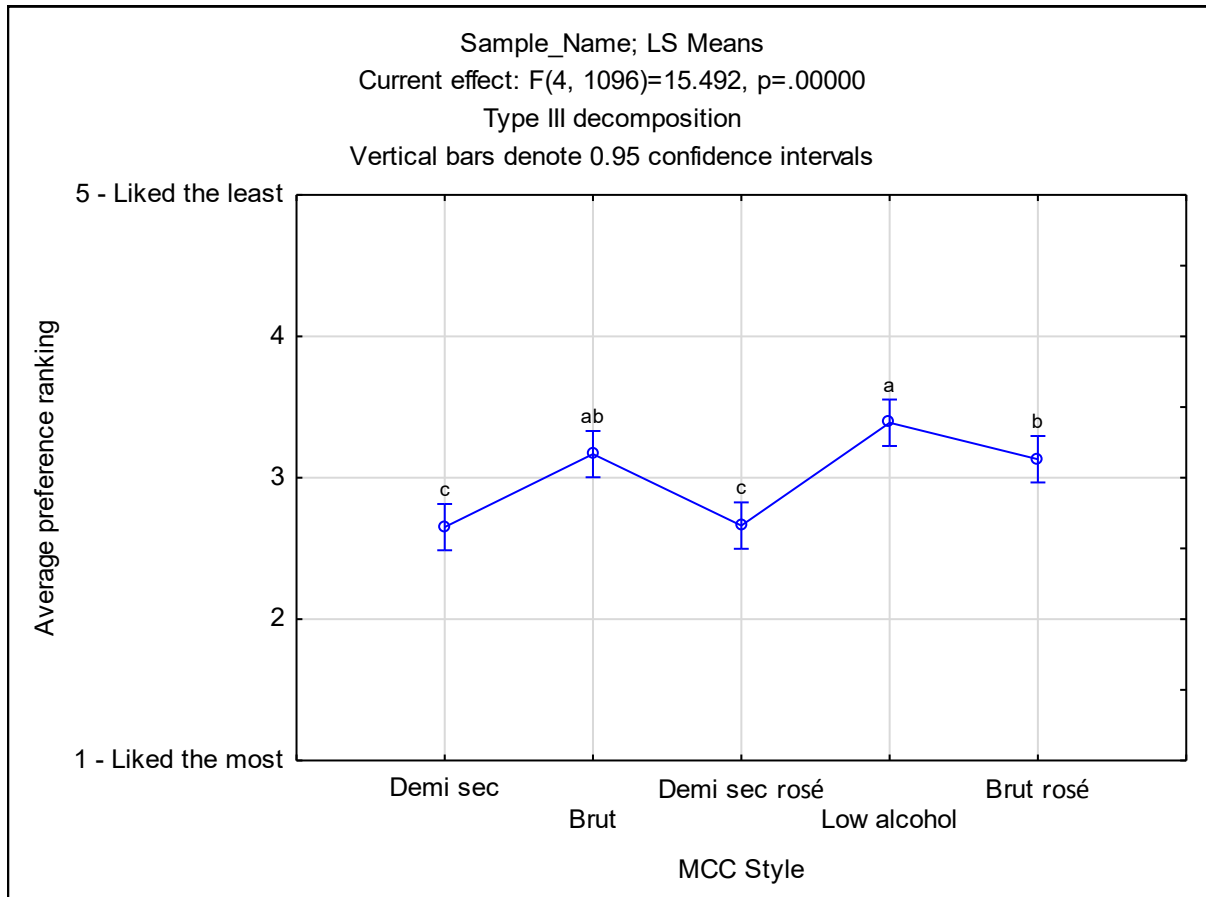


Figure 4.9 Respondents' preference ranking of the different styles of MCC. The scale was 1=liked the most, and 5=liked the least.

In Figure 4.9, there are statistically significant differences in the way the respondents ranked the different styles of MCC ($p<0.01$). The two most preferred MCC styles are the demi sec and demi sec rosé, followed by the brut and brut rosé, the least preferred was the low alcohol.

The difference between Figure 4.4 and Figure 4.9 was that in Figure 4.4 the MCCs were judged separately and with Figure 4.9 the respondents had to consider all the MCCs together and rank them from most preferred to their least preferred.

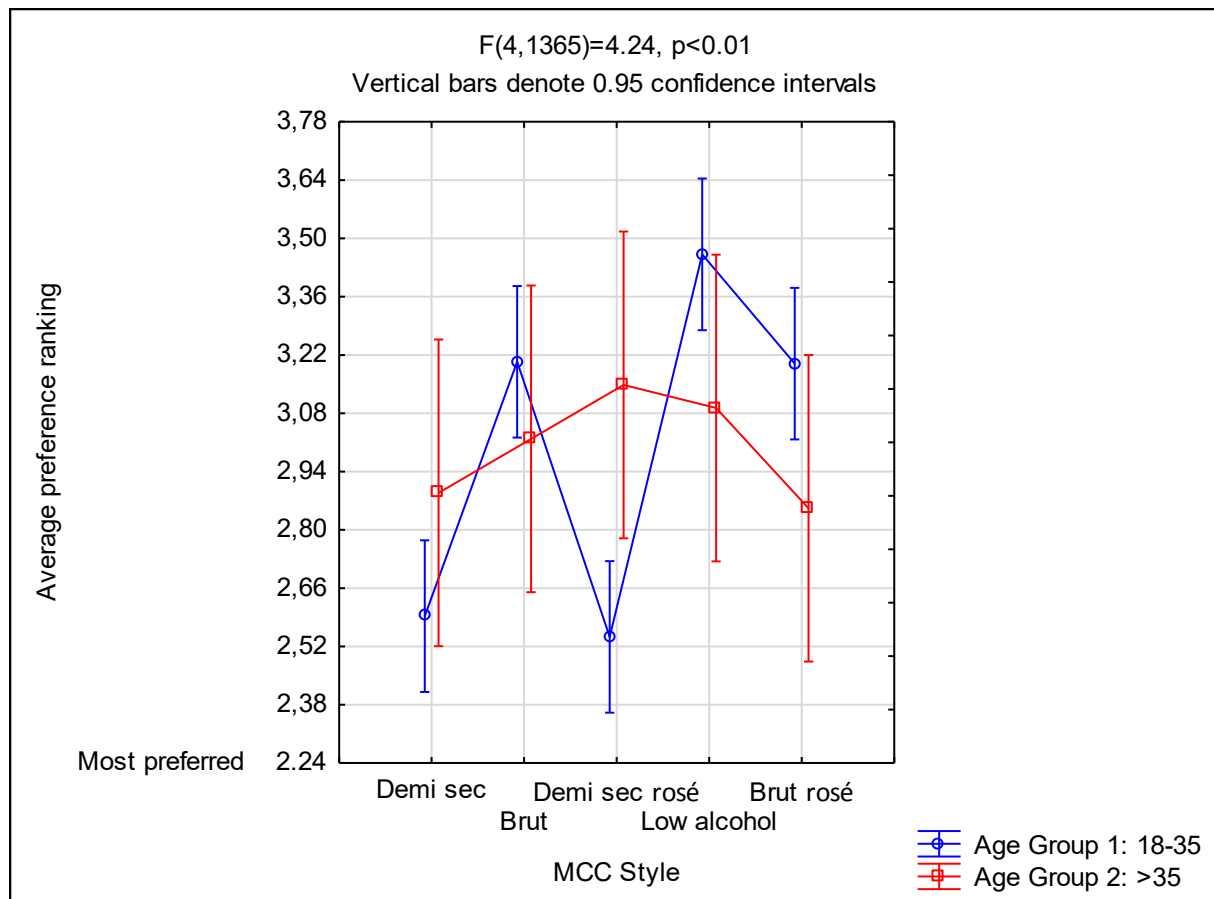


Figure 4.10 Age group preference ranking of the different styles of MCC. The scale was 1=liked the most, and 5=liked the least. The graph scale was amended for clarity.

In Figure 4.10 there is a statistically significant difference in how the two age groups ranked the different styles of MCC ($p<0.01$). The shapes of the two age group graphs are different from each other. Age Group 1 prefers the demi sec rosé and the demi sec, whereas Age Group 2 least prefers the demi sec rosé. Age group 2 most prefers the demi sec and the brut rosé.

In Figure 4.5 the two age groups seem to follow a similar trend with regards to the shape and in Figure 4.10 the trend of the age groups looks different. Although Figure 4.5 measures liking and Figure 4.10 measures preference ranking, one would almost expect them to show a similar trend. This is true in both graphs for Age Group 1, but not for Age Group 2. Figure 4.10 shows that there is age group difference between the two age groups in relation to preference, which indicates Age Group 1 prefers the demi sec style of MCC and Age Group 2 prefers brut.

Bruwer *et al.*, 2011 states that wine consumers have a similar wine journey in which they usually start from sweeter wine to more dry wines as they grow, however there are exceptions as some people never move on from the sweeter wins (Bruwer *et al.*, 2011). Figure 4.10 adds to Bruwer *et al.*, 2011 by indicating that MCC drinkers display a similar journey behaviour to that of wine consumers. Figure 4.10 corroborates these findings by Bruwer *et al.*, 2011 because the two age groups are at different points in their MCC journeys, and thus the respondents prefer different styles of MCC.

Through generational studies, old and younger generations tend to prefer different things (Olsen *et al.*, 2007; Barber *et al.*, 2008; Wolf *et al.*, 2018), and what this proves is that this not only applies to still wine but also to sparkling wine (Charters *et al.*, 2011).

4.3.5. Respondent perception of the MCC sensory profile

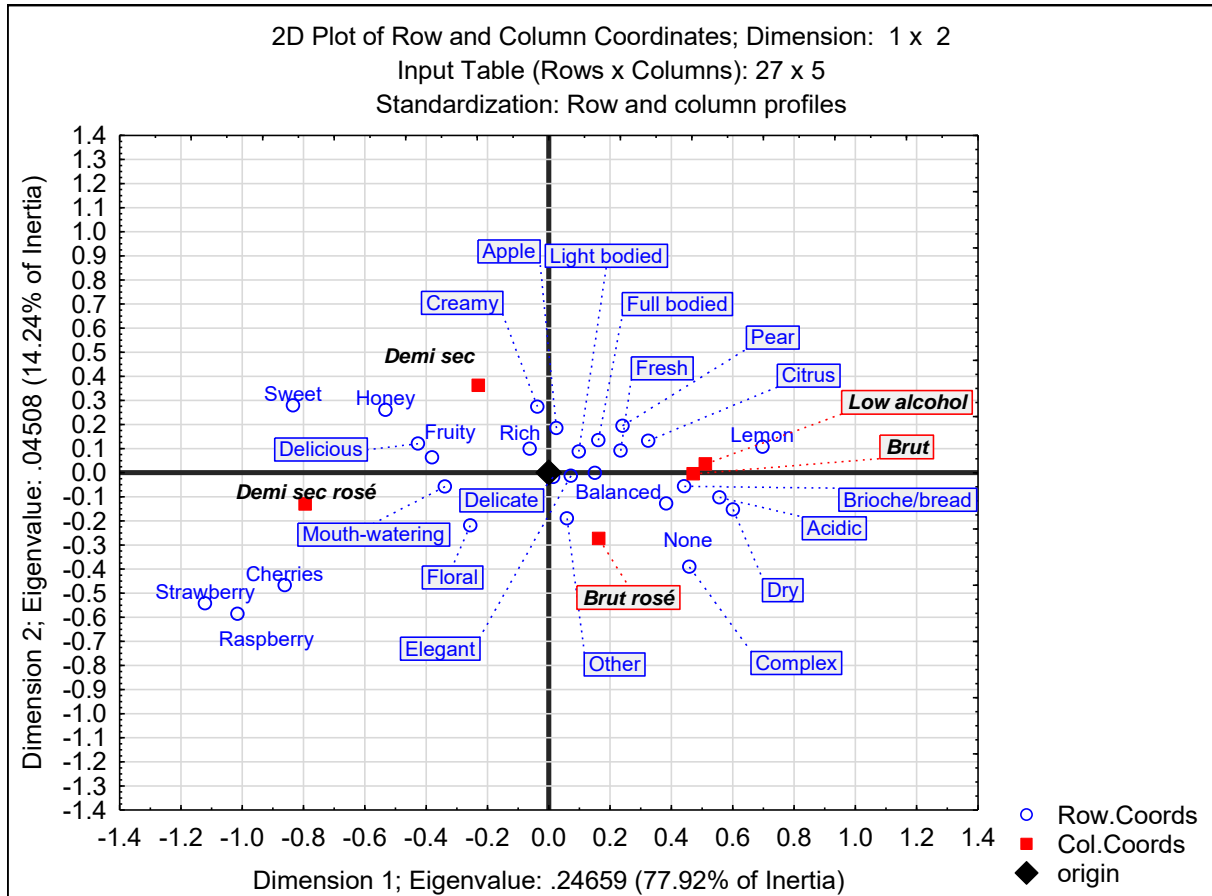


Figure 4.11 Correspondence analysis graph of the sensory descriptors chosen by the respondents for the different MCC styles. The terms that are in black are the different styles of MCC, and the terms in blue are the sensory descriptors. There terms that are in block were moved for clarity.

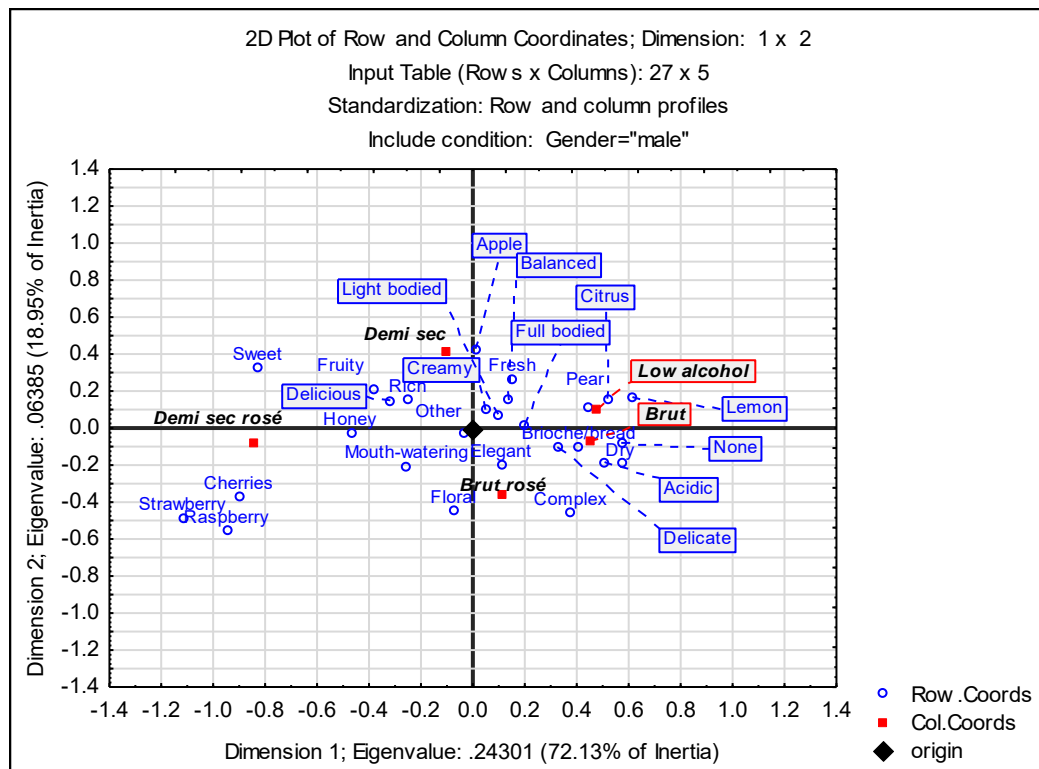


Figure 4.12 Correspondence analysis graph with the sensory descriptors chosen by the males for the different styles of MCC. The terms that are in black are the different styles of MCC, and the terms in blue are the sensory descriptors. These terms that are in block were moved for clarity.

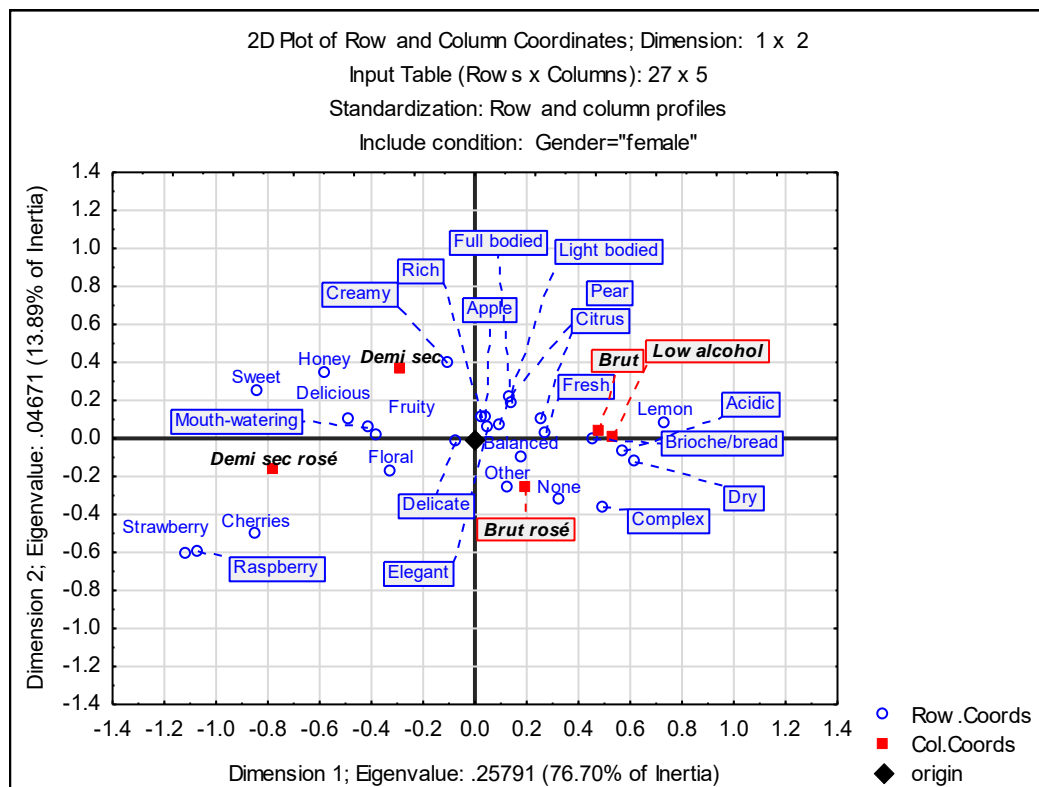


Figure 4.13 Correspondence Analysis graph with the sensory descriptors chosen by the females for the different styles of MCC.

Table 4.2 Statistical analysis for the RV coefficient and the p-value for the Correspondence Analysis of Figure 4.8.

Males	Females	RV Coefficients	p-value
Descriptors	Descriptors	0.89	0.00
MCC Styles	MCC Styles	0.97	0.01

Both Figure 4.12 and Figure 4.13 are very similar, there are only a few differences mainly in how the different sensory descriptors are clustering around the different styles of MCC. In both correspondence analysis plots the low alcohol and the brut are very close to each other, this could be an indication that similar sensory descriptors were used for those wines.

The p-value was calculated for the sensory descriptors used by the males and those used by the females, it was found to be $p < 0.0001$ which means there was a statistically significant difference in the descriptors used by the females and those used by the males (Table 4.8); hence the clustering of different sensory descriptors around different styles of MCC for males and females (Figure 4.12 and Figure 4.13). There is a positive correlation between the sensory descriptors chosen by the males and by the females, $r = 0.89$. There is also a positive correlation between the MCC styles that the males and the females chose, $r = 0.97$. The positive correlation of the chosen MCC styles by the male and females add to the validity of Figure 4.12 and Figure 4.13. Around brut and low alcohol, some sensory descriptors that appear by both the males and females are, “lemon”, “acidic”, “dry”, and “brioche/bread”. Between demi sec and demi sec rosé, both males and females chose, “sweet”, “honey”, “fruity”. And, for the demi sec rosé, both males and females chose, “strawberry”, “cherries”, and “raspberry”.

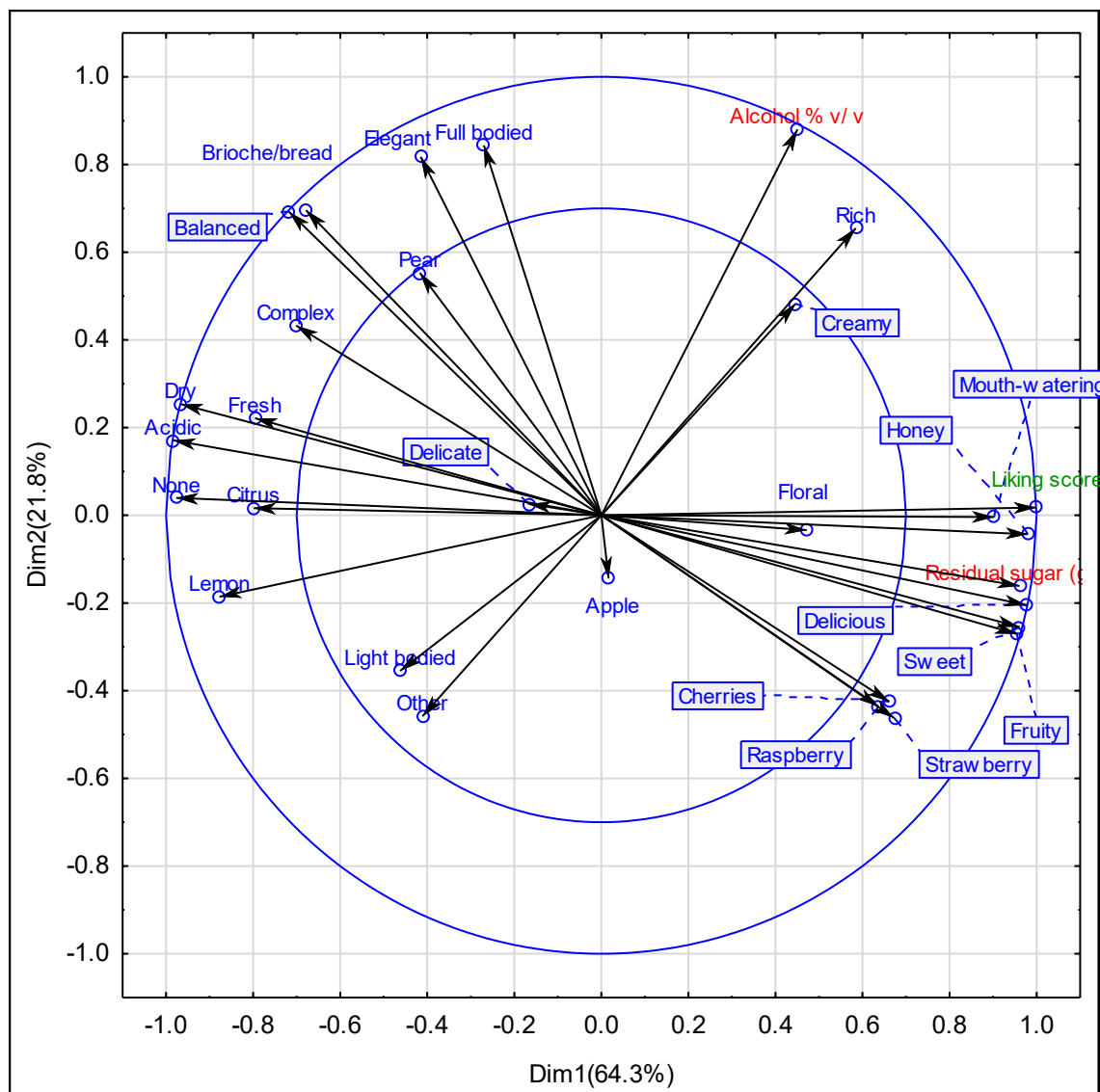


Figure 4.14 Multi factorial analysis (MFA) correlation circle of the sensory descriptors; the liking score and the wine chemistry. The chemistry terms are indicated in red; the sensory descriptors are in blue and the liking is in green. Terms that are in blocks were moved for clarity. The smaller inner circle indicates 75% correlations, and the larger outer circle is 100% correlation.

Table 4.3 The different styles of MCC their alcohol and residual sugar level that are available on the bottle label.

MCC Style	Alcohol (% v/ v)	Residual sugar (g/L)
Brut	12.5	7.6
Brut rosé	12	9.8
Demi sec	12.68	40
Demi sec rosé	11	38.8
Low alcohol	9	7.5

It has been found that wine is a complex product from a sensorial and chemical perspective (Bruwer *et al.*, 2011). Chemical analysis of wine cannot predict the liking or disliking quality of wine from the wine consumer's perception, that is because perception is complex and not yet understood in terms of wine chemistry (Norris & Lee, 2002). In Figure 4.14, the circles are an indication of the correlation between the variables on the graph and the two dimensions on the graphs. There are three variables that were investigated to monitor the correlation, liking score, sensory descriptors and the chemistry of the MCC.

In a correlation circle (Figure 4.14) when arrows run perpendicular to each other, it means that there is no correlation between the variables. Therefore, in Figure 4.14 the wine chemistry and most of the sensory descriptors seem to have no correlation. There are both a positive and negative correlation between the sensory descriptors and the MCC residual sugar. When viewing it from Dim1, residual sugar seems to have a strong positive correlation with sensory descriptors; “fruity”, “delicious”, “sweet”, and “strawberry”. These are in accordance with the sensory descriptors chosen for the demi sec and demi sec rosé in Figure 4.11, except for “strawberry”. A demi sec style of MCC is sweeter than a brut; Table 4.3 shows the different residual sugar levels for the different styles of MCC. These findings agree with what Bruwer *et al.*, 2011 found, they found that consumers tend to like fruity tastes and aromas in wine (Bruwer *et al.*, 2011).

There seems to be a negative correlation in Figure 4.14 between the sensory descriptors chosen for the brut and low alcohol, and demi sec and demi sec rosé in Figure 4.11. For example the low alcohol and brut sensory descriptors, “citrus”, “lemon”, “citrus”, and “dry”, while the descriptors for the demi sec and demi sec rosé are facing the opposite direction. The demi sec and demi sec rosé sensory descriptors are “delicious”, “sweet”, “mouth-watering”, “honey”, and “fruity”.

In Figure 4.14, the sensory attributes from Figure 4.11 that seem to positively correlate with the liking score are those that are found in proximity to the demi sec and demi sec rosé, such as “mouth-watering” and “honey”. This not only informs us that the respondents are aware of the style of MCC they like, but also that they are familiar with the sensory attributes of that MCC.

Wine sensory characteristics contribute the product experience that consumers have when consuming wine (Bruwer *et al.*, 2011). The sensory characteristics seem to be important because from the findings in Figure 4.14 the respondents are aware of the sensorial differences between the different MCC styles, the respondents like the attributes that are associated with the demi-sec styles of MCC.

4.3.6. Consumer involvement and behaviour

Table 4.4 Respondents consumption frequency of different kinds of wine.

	Sparkling wine/ MCC	White wine	Rosé wine	Red wine
Most days/ everyday	1%	3%	2%	8%
2-5 times a week	5%	13%	1%	17%
About once a week	9%	24%	12%	27%
1-3 times a month	36%	31%	31%	27%
Less than once a month	43%	22%	35%	16%
I do not drink this at all	6%	7%	19%	5%

Forbes, 2011 stated that wine consumers tend to consume a lot of red wine (Forbes, 2012), which was found to be true as 54% of the respondents stated that they consume red wine from either once a week to one to three times a month (Table 4.4). The consumption frequency of rosé wine was close to that of MCC, more than 65% of the consumers indicated that they consume these

wines between one to three times a month to less than once a month. For MCC, 43% of respondents said they consume MCC less than once a month (Table 4.3).

After reviewing at the consumption frequency of MCC, consumers' involvement and engagement with the product was evaluated, these are statements that were expressed:

1. I have a strong interest in sparkling wine
2. I like to take my time when I purchase a bottle of sparkling wine
3. Sparkling wine is important to me in my lifestyle
4. Drinking sparkling wine gives me pleasure
5. Compared to other people, I know less about the subject of sparkling wine
6. I feel competent about my knowledge of sparkling wine
7. I don't understand much about sparkling wine

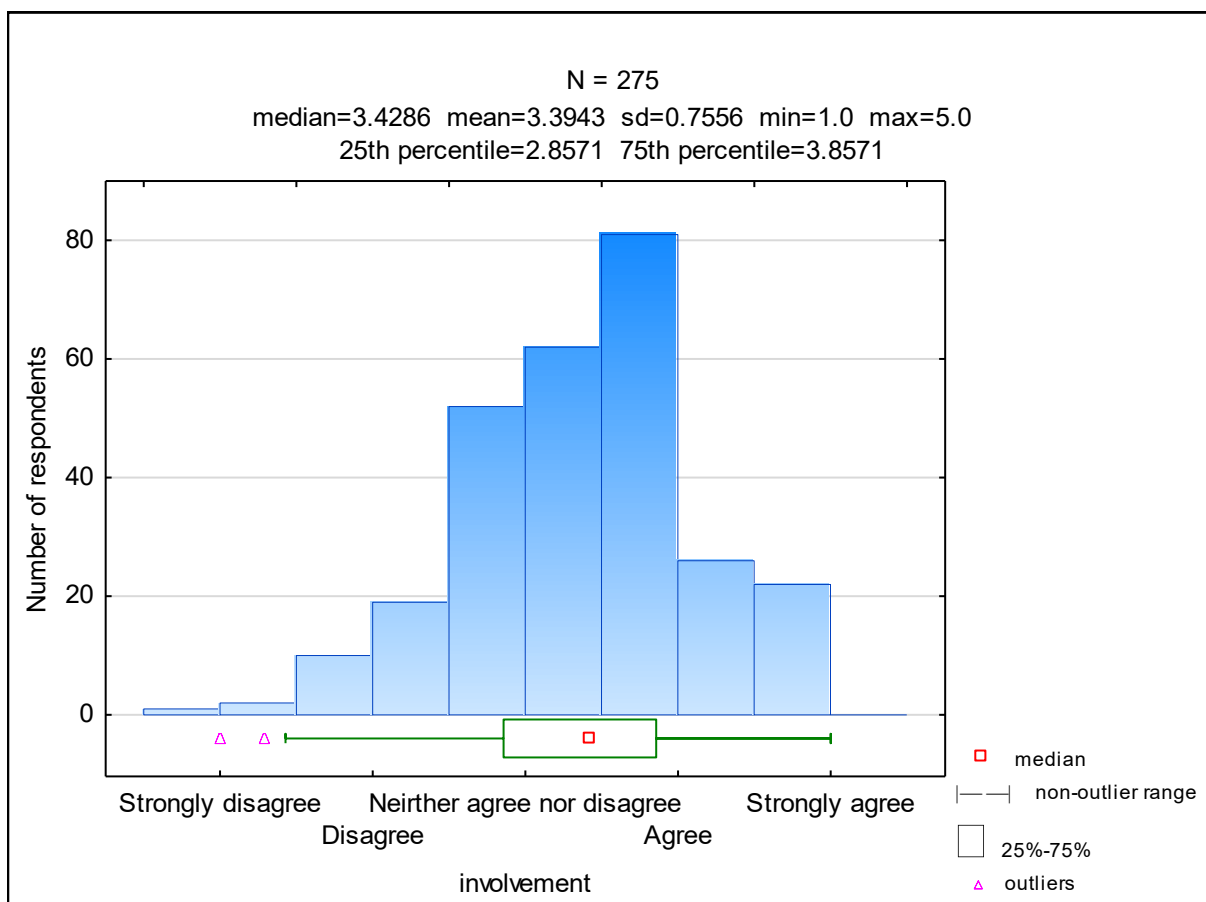


Figure 4.15 Respondents agreement/disagreement with statements that investigate their product involvement.

The responses for statements number 5 and 7 were reverse scored to obtain a composite score. Figure 4.15 shows the results for the respondent's involvement. Majority of the respondents agree with these statements, which can be indicative of some respondent-MCC involvement in their personal life.

Wine and sparkling wine have gained popularity and are growing more as lifestyle drinks and not drinks reserved for special occasions (Charters *et al.*, 2011; Bruwer *et al.*, 2017). This increase

in popularity prompts researchers as well as producers to put forth more efforts in attempting to understand the consumers consumption patterns, profiles and values.

Consumers with high levels of involvement with a product category tend to have high levels of expertise in that category, this is because they tend to seek out information on the product, spend more time and effort when making a purchase of the product, will purchase and consume the product to a greater degree, and will be more likely to be opinion leaders in their circles (Forbes, 2012; Borgogno *et al.*, 2015). Therefore, Figure 4.15 shows that most of the respondents agree that they engage with the product offering. This involvement tends to affect how the consumer interacts with the product, but also which attributes relating to the wine they engage with more, especially between intrinsic and extrinsic cues.

4.3.7. Respondent familiarity of MCC and carbonated sparkling wine

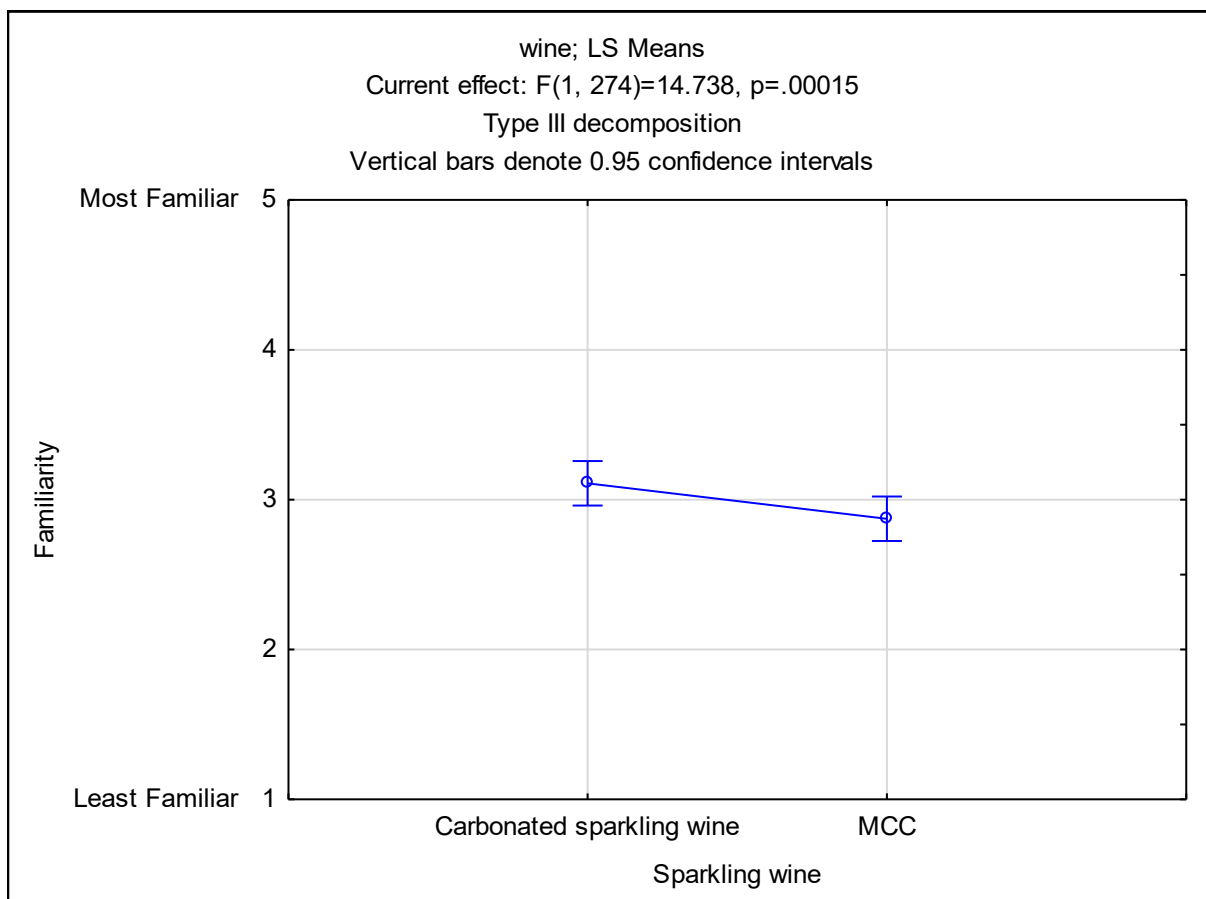


Figure 4.16 Respondent familiarity with MCC and with Sparkling wine.

Consumer product familiarity affects the consumer's engagement with the product. The more familiar, the more engagement because the consumer has constant exposure to the product. In Figure 4.16, the respondents were more familiar with sparkling than MCC ($p<0.01$).

When dealing with a topic like familiarity, it can either be measured according to product involvement, or product knowledge (Bruwer *et al.*, 2017). Product involvement refers to the product-consumer interactions. Product knowledge on the other hand can be divided in subjective product knowledge and objective product knowledge.

This section of MCC versus sparkling wine familiarity is complicated because product familiarity is a multi-faceted topic which relies on consumer-product experiences.

4.3.8. Gender Effect

Upon further analysis and segmentation of the data, it was found that there is a trend with the results in terms of gender. Segmentation in terms of gender done on the different section results of the questionnaire indicated that there was no statistical significance between the males and females in terms of MCC liking, likelihood to buy, preference ranking, and familiarity.

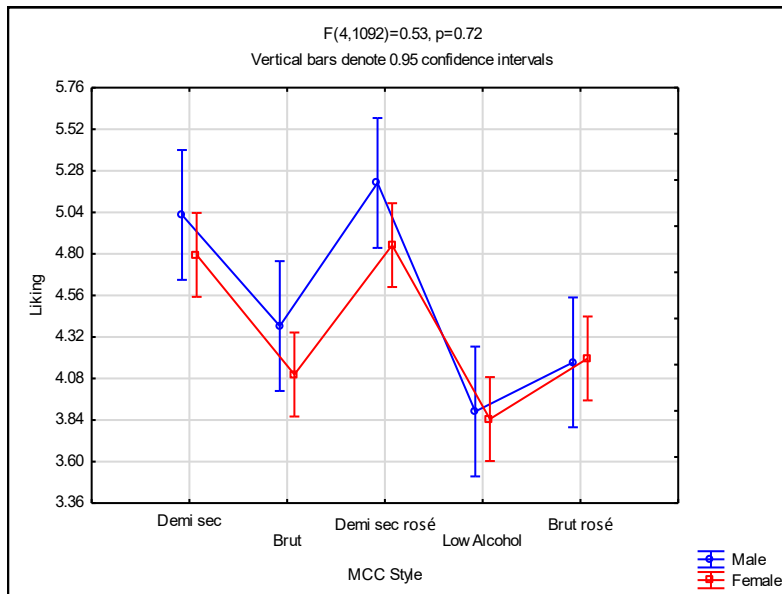


Figure 4.17 Gender segmentation for respondents' MCC liking.

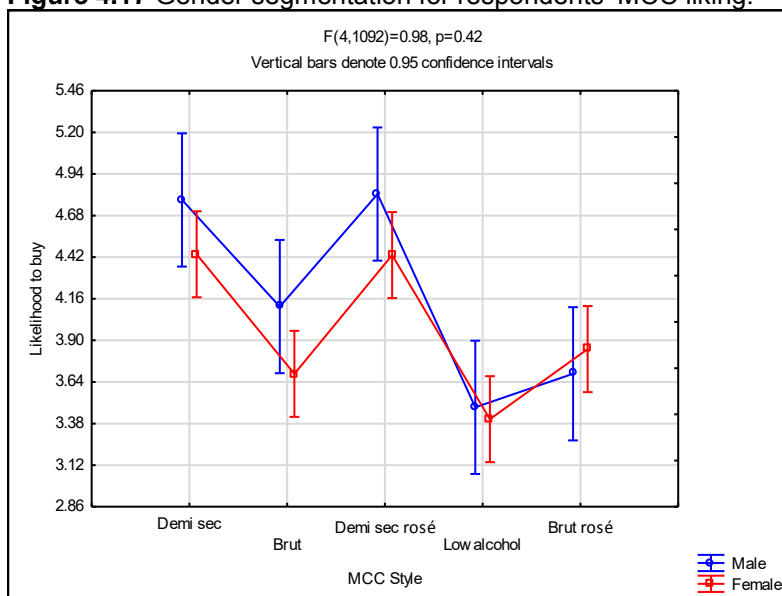


Figure 4.18 Gender segmentation for respondents' likelihood to buy MCC.

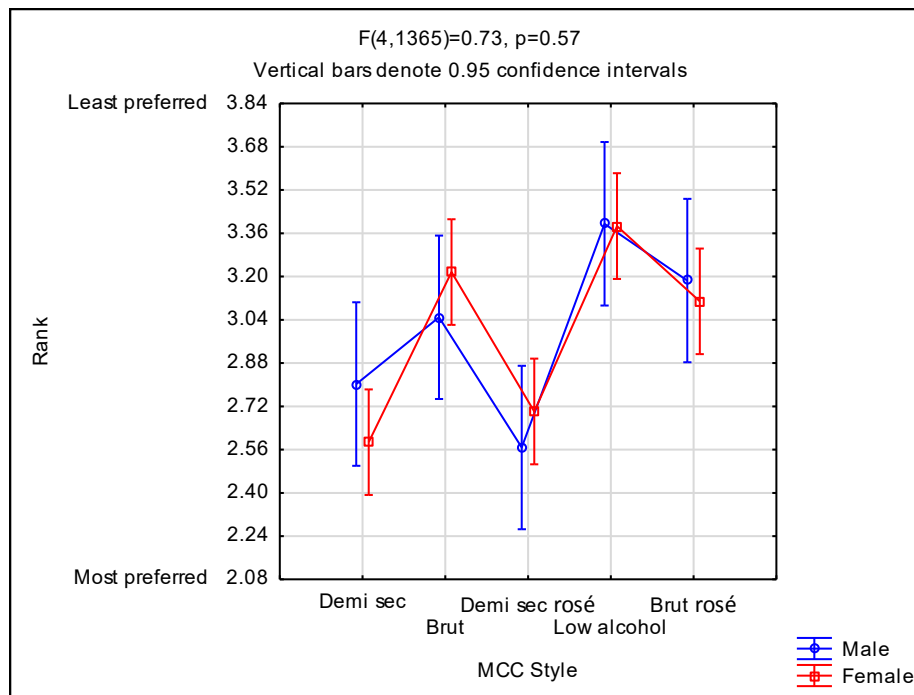


Figure 4.19 Gender segmentation for respondents' ranking of the different styles of MCC.

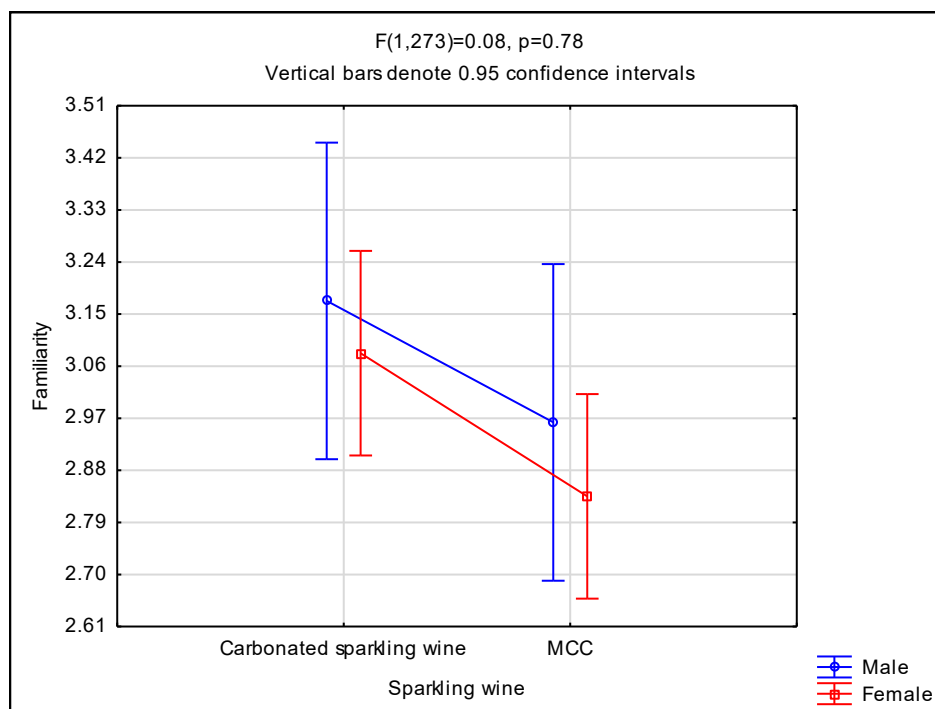


Figure 4.120 Respondent familiarity with sparkling wine segmented by gender.

Table 4.5 Statistical significance p-value for the different categories of investigation which are Figure 4.17 to Figure 4.20.

Category	p-value
Liking	0.72
Likelihood to buy	0.42
Rank all	0.57
Familiarity	0.78

In Table 4.5, all p-values are greater than 0.05, indicating statistical non-significance in how the gender interaction affects the pooled means:

- No significant gender difference in how the male and females ranked their liking if the different styles of MCC.
- No significant gender difference in how the males and females indicated their likelihood of buying different styles of MCC.
- No significant gender difference in how the males and females perceived the prices of the different styles of MCC.
- No significant gender difference in how the males and females ranked the different styles of MCC according to their preference.
- No significant gender difference in how the males and females indicated their familiarity with MCC and with sparkling wine.

Literature, with regards to still wine, mainly states that there is a difference in how men and women approach wine and their attitudes towards wine (Baber, 2009; Bruwer *et al.*, 2011). The finding in Table 4.5 contradicts these general findings, because it shows no significant difference in how the males and females experience the MCC product from an intrinsic perspective.

Research done with still wine and consumers, found that males prefer red wine, while females prefer white wine and sweet wines (Ndanga *et al.*, 2010). Figure 4.17 illustrates that these findings are not there with regards to MCC. The males also indicated that the demi sec and demi sec rosé style of MCC was the one which they liked the most (Figure 4.17).

There is a difference in how males and females process information and their decision making, which will result in difference in their wine choice (Baber, 2009). Although this might be true, this study shows that with MCC they have similar preferences. According to Figure 4.120, there is no statistically significant difference in the two genders' familiarity with MCC and carbonated sparkling wine.

Charters *et al.*, 2011 states that some consumers view sparkling wine as a separate category from still wine (Charters *et al.*, 2011). Forbes (2012) found that gender has little significance on the frequency that consumers purchase and drink wine (Forbes, 2012). This further corroborates that even with MCC, the respondents like the product intrinsic similarly.

4.4. Conclusion

The aim of this chapter was to investigate the respondents' sensory and perceptions of MCC from an intrinsic perspective.

It was found that there was no significant difference between the male and female respondents in their perceptions towards MCC. Age seems to be more of a distinguishing factor than gender.

The respondents like the different styles of MCC and are likely to purchase a bottle, provided they like the taste. The MCC style that was liked the most was the demi sec and demi sec rosé. The respondents' price perception was lower than the actual retail value.

The respondents stated they were more familiar with carbonated sparkling wine than MCC. The respondents could differentiate between the different styles of MCC from a sensorial perspective because they were able to choose the sensory descriptors relating to the different styles of MCC. There were subtle differences between the sensory descriptors that the males and females chose to describe the different MCCs.

There was correlation between the wine chemistry and some of the sensory descriptors. Sensory descriptors that could be linked to sweetness and fruits had a positive correlation with the liking score.

From this section, respondents prefer a demi sec rosé, and the low alcohol MCC seems to have scored the lowest overall compared to the other styles. Respondents present at the consumer tasting enjoy the MCC product offering, they can differentiate between the different styles of MCC, and are willing to spend money on a bottle of MCC if they like the taste.

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Chapter 5: Méthode Cap Classique consumer familiarity & product involvement

5.1. Introduction

Consumer product research investigates, amongst others, subjective knowledge, objective knowledge and familiarity (Forbes *et al.*, 2008). Subjective knowledge refers to what the consumer thinks they know, whilst objective knowledge is their actual knowledge about the product (Robertson *et al.*, 2018). Product familiarity on the other hand, is related to the number of product-related experiences that the consumer has accumulated over time (Borgogno *et al.*, 2015).

Product familiarity is a broad topic and incorporates several concepts. These concepts include subjective product knowledge, quality-price perception, product involvement, consumer-product engagement, and branding (Viot, 2012; Lockshin & Corsi, 2013; Francis & Williamson, 2015; Kelley *et al.*, 2015). Some of these concepts were used as guidelines for designing the interview questions.

Wine consumers are bombarded with a plethora of wine brands on retail shelves; however, in most cases they cannot taste the product before purchase. Therefore, the consumer needs to rely on the wine extrinsic features to serve as quality indicators to help for purchase decision making. There are several factors to consider when evaluating wine extrinsic features. These factors include, but are not limited to, label design, bottle shape and colour, shelf position, brand name, price, packaging, store name, and country of origin (Atkin & Thach, 2012; Kelley *et al.*, 2015; Bruwer *et al.*, 2017).

An important part of wine purchasing for some consumers is the so-called risk reduction strategy. Risk-reduction strategies are employed by consumers to reduce the uncertainty component of perceived risk but may also seek to reduce the consequences that could arise, be they physical, financial, performance, social, psychological or time risks (Mitchell & McGoldrick, 1996). Risk reduction strategies are required because the consumers cannot taste the wine before consumption and therefore has to rely on other indicators before purchase (Kelley *et al.*, 2015; Bruwer *et al.*, 2017). Information on the type of cues is relevant for wine marketers to target products to consumers.

Therefore, this chapter investigates consumers' familiarity with MCC, and the perception of MCC's extrinsic features, which include, but are not limited to, label design, bottle shape and colour, shelf position, brand name, price, packaging, store name, and country of origin.

5.2. Materials and Methods

The focus of this study was on young (18 to 35 year old, mixture of Generation Y and Generation Z) consumers because they represent future wine drinkers (Barber *et al.*, 2008; Bruwer *et al.*,

2011; Charters *et al.*, 2011; Lategan *et al.*, 2017; Wolf *et al.*, 2018). The respondent's product familiarity with Méthode Cap Classique is investigated further through semi-structured interviews. Semi-structured interviews were chosen because they allow the investigator to prepare questions for the interviews but provides room to gain more information or get more context regarding an answer from the respondent (Barriball & While, 1994).

The methodology used was mixed methods, a mixture of qualitative and quantitative research methods (Curry *et al.*, 2009). The quantitative phase consisted of a respondent tasting with a questionnaire (Chapter 4). The data was analysed, and aspects were chosen to follow up on in the subsequent qualitative phase.

5.2.1. Consumer Sampling Strategy

Participants were chosen according to the following criteria, which includes older than 18 years (18 to 35-year-old, mixture of Generation Y and Generation Z), previous consumers of the product (present at the respondent tasting), and a declared interest of MCC and the study during the respondent tasting. The sampling was a mixture of convenience, strategic and purposeful sampling (Guest *et al.*, 2005; Guetterman, 2015). In the end, 13 respondents were interviewed. There were 7 males and 6 females, and the age range was between 20 and 28 years old. When coming to ethnicities, there were 4 Caucasian (2 male and 2 female), 4 Africans (2 male and 2 female), and 5 Coloured (3 male and 2 female)

5.2.2. Interview

Semi-structured interviews were used to explore the perceptions and opinions of respondents and enabled probing for further information and clarification of answers (Barriball & While, 1994) (Addendum 2).

Before each interview, respondents signed a consent form which forms part of the ethical clearance protocol (Addendum 3). The respondents were guided through the consent form and could ask any questions before signing the form. During the interviews, there were always at least two lead researchers present, and the interviews were audio recorded.

During the interview, the respondent would be asked a question, and then they would respond. Should any of the researchers present have follow up questions or need clarification, the respondent would be asked before moving onto the next set question. From questions 1 to 7, the respondents would not see the price of the bottles of MCC, and then from question 8 to 15 the prices would be shown to them (Addendum 2).

5.2.3. Data Processing

The recorded interviews were transcribed verbatim into Microsoft Word. Thematic analysis was then conducted on the transcripts. The transcripts were coded in question categories. The

questions were grouped into themes, then from the responses, the codes and sub-codes were extracted.

a) Familiarization with the data

The recordings were transcribed and read through numerous times to be familiar with the respondent's feedback and notes made.

b) Themes and Coding Procedure

The questions the respondents were asked were based on literature on product familiarity. Product familiarity has a number of concepts which are: subjective product knowledge, quality-price perception, product involvement and engagement, and branding (Viot, 2012; Lockshin & Corsi, 2013; Francis & Williamson, 2015; Kelley *et al.*, 2015). These concepts were used as guiding themes in which the questions were grouped. The responses from the questions under each theme were coded.

5.2.4. Validation

a) Outside Validation

Co-researchers (n=2) were sent the codebook and coding procedure to validate the primary researcher's findings from the transcripts (Creswell, 2013; Guetterman *et al.*, 2015; Elliott, 2018).

b) Member Checking

Member checking was employed to validate that the findings were reflective of the respondents' responses (Gevers, 2019). Respondents were sent a summary of the findings and had to indicate whether the findings were satisfactory or not.

5.3. Results from the Thematic Analysis

This section will be looking in-depth at the themes that were discovered. Manual thematic analysis was used to obtain the themes which will aid understanding the respondent's familiarity with MCC, and the perception of the bottle extrinsics.

5.3.1. Subjective product knowledge relating to MCC and sparkling wine

The question asked under this theme was to gauge how knowledgeable are the respondents when coming to their knowledge of MCC and sparkling wine.

Table 5.1 Percentage of respondents who were able to answer the knowledge questions relating to MCC

Question	Percentage (%) of respondents that answered correctly
What does MCC stand for?	80%
Is MCC and Champagne the same thing?	67%
Is MCC of higher quality than sparkling wine?	92%
What is sparkling wine?	53%
In which country or countries is MCC produced?	58%

Table 5.1 shows that more than 50% of the interview respondents have some knowledge on MCC. These findings corroborate the findings from Chapter 4, where it was found that the respondents are knowledgeable and are likely to purchase the styles of MCC that they like the taste of.

In Table 5.1 subjective product knowledge was evaluated instead of objective product knowledge. When doing consumer research, subjective knowledge is easier to measure than objective knowledge because the development of a test to measure objective product knowledge can never be entirely objective in itself (Barber *et al.*, 2006; Forbes *et al.*, 2008). It was therefore easier to measure the respondent's subjective product knowledge against already known MCC facts. The finding indicated that respondents were knowledgeable on the product category because from all questions that were asked, at least 50% of respondents interviewed were able to answer the questions correctly.

The questions asked (to the respondents) were not necessarily the information to be found on the bottle, or information that relates to the quality of product. This is the kind of information that if the respondent knows it, it reduces product uncertainty and thus the risk associated with purchasing a wine or in this case MCC. Within marketing, information has been used to increase knowledge or reduce risk, the problem was found to be with how consumers are able to gain access to meaningful and quality information (Barber *et al.*, 2006).

Although this might not be an indication of involvement, it does indicate that the respondents have either been exposed to the MCC product category or to information regarding and related to the product category. Product knowledge also affects the way in which consumers process information (Forbes *et al.*, 2008). Therefore, the next aspect to be investigated is the factors that the respondents consider before or when purchasing a bottle of MCC in a retail environment.

5.3.2. Factors respondents consider when purchasing MCC

In this section the respondents were asked to explain their decision-making process when choosing to purchase a bottle of MCC.

Codes: Occasion, price, bottle appearance, and familiarity

In Table 5.2 are the factors that frequently emerged when the respondents were talking about their decision-making process in retail. Table 5.2 also indicates the contextual definition and examples of what the respondents said.

Table 5.2 Codes found for the factors that the respondents consider when purchasing MCC.

Code	Contextual Definition	Examples
Occasion	When a specific occasion is mentioned where enjoyment of the specific MCC is planned.	<p>“The event would be my PhD graduation”</p> <p>“It would usually be for someone’s birthday, but the likelihood is greater that I would buy it for like Christmas day than I would for someone’s birthday, or maybe when someone graduates...”</p>
Price	When anything relating to the price of MCC is mentioned in the decision-making process.	<p>“Also, certain price range, it depends on the event, if I am having a casual dinner I am not spending more than R200 in general”</p> <p>“And now, judging from these prices, they would still be within my price range, and so price already I would put that aside.”</p>
Bottle appearance	When the appearance of the bottle is mentioned in the decision-making process.	<p>“But I like the packaging of the Brand4, just because it’s a sticker and it is very minimalistic, it is cute.”</p> <p>“... and out of what is there I would look for a bottle that can look a little bit classy”</p>
Familiarity (taste or brand)	When respondents mention that a choice would be based on previous experiences, either tasted it before or heard of the brand name	<p>“So, I have had a few and I have written them down and those are the ones I enjoy”</p> <p>“Ok, say I have gone wine tasting and I have had a tasting of a bunch of sparkling wines. I would buy Brand4, it looks like something I would buy at a wine farm.”</p>

Price was the most commonly mentioned factor. When one of the respondents was further asked to elaborate on why price was the first thing mentioned, the respondent said: *“So, obviously price is something that is very important. So, when you going into a shop to buy a bottle of MCC you already know how much you are willing to spend. And so for me it will be a process of elimination based on price.”* Upon further probing it was found that this specific budget would generally be determined by the consumers financial standing as well as their reason for buying the MCC.

Occasion emerged often as well, but it was usually after the respondent mentioned price. A respondent mentioned that they want to make an impression in a social context whether it be dinner or as a gift, they are willing to spend a little bit more than if they are just buying for normal everyday consumption. Respondent: *“If it is a dinner at home and it is just an intimate dinner with family, you can still get away with a Brand4 and all of that.”* (Brand4 was the cheapest brand.). Therefore, what was found was that price and occasion were the two main factors the respondents consider when purchasing a bottle of MCC, because the occasion would then determine the kind of bottle aesthetic they would go for.

There were various bottle features the respondents mentioned they would consider evaluating if a certain bottle was appropriate for a specific occasion or if it fit its price point in a retail environment. Respondent 1: *“But when I look at it, for my graduation I would by far choose Brand2 without looking at the price, because it has more of an appearance and for me fits the occasion”.*

The respondents also mentioned that they would consider is an MCC they have come across before. Therefore, it would be either a brand they have heard about, seen advertisements of, or have tasted before. One respondent also mentioned that they would not go for a demi-sec because they know that it is sweeter than a brut. Respondent: *“And for instance here, it says demi sec which I know I am not very fond of.”*

These factors seem to be shortcut cues that the respondents rely on when in retail and need to decide on the MCC they would want to purchase. The respondents rely increasingly more on these cues with continual exposure and provided the product quality matches the consumer's expectations.

5.3.3. Assessment of MCC bottle extrinsic features

Respondents were required to visually evaluate the five bottles of MCC in terms of the bottle appearance and the information on the bottle. This was an evaluation of the respondents' engagement with the bottle aesthetic.

Table 5.3 Codes obtained from analysing which bottle elements do the respondents note when evaluating a bottle of MCC, and the frequency % that the bottle elements were mentioned by the respondents.

Code	Contextual Definition	Examples	% Frequency mention
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Physical bottle	When referring to the physical glass bottle was made.	<p>"the shape of the bottle is very nice and the fact that its thinner than the other ones and a little taller"</p> <p>"I think the little detail on the glass there, the crown, that's nice."</p>	20%
Front Label	When reference to either elements or the general appearance of the front label was made.	<p>"the label just feels very plain"</p> <p>"I love the label"</p> <p>"I like the gold outline on certain parts of the label"</p>	29%
Back Label	Reference something related to the back label.	<p>"And then, do they all have a stamp on it? The Siegel mala (there is a little emblem/stamp/badge on the back label which text is printed on to). That makes it look like it has a stamp of approval."</p> <p>"I am not a fan of the white label (both front and back)."</p>	14%
Bottle neck/ Neck foil	Reference to anything that has to do with the bottle neck or part of the bottle that has the foil covering or would usually be covered in foil for a sparkling wine bottle.	<p>"... but the foil around the neck I still have a big deal, they should change their design a bit and maybe include something on the neck..."</p> <p>"I guess I really like the black top, the neck has a really good grip which also referring to how the bottle should be handled"</p> <p>"This foil packaging is amazing, the texture of it and how the monogram is embroidered on it."</p>	34%
Colour scheme	Reference to the use of colour on the bottle.	<p>"... this rose gold or rose pink going on is beautiful, and very attractive."</p> <p>"And every time the use of gold, whenever you use something gold or close to gold brings across this thing of elegance, class..."</p> <p>"... very distinct and unique colour."</p> <p>"What they did very well was the use of the colour, this pink. The Champagne pink and the black bottle, I really like that"</p>	46%
Information	Reference to any information on the bottle, it can be specific information about something or the general information on the bottle.	<p>"The labelling reveals a lot of the history, for instance 'South Africa's first Cap Classique' which in itself pulls you towards the farm..."</p> <p>"To me it has all the information you need."</p> <p>"I like the name night nectar rosé, if I was to start reading the bottle, that would grab my attention. It seems like pretty general information wise, but the name is pretty nice"</p>	75%
Personal	When reference to a statement that personally relates to the respondents was.	<p>"Ok, generally it doesn't appeal to me."</p> <p>"I lover whatever I see."</p> <p>"I won't choose this bottle."</p> <p>"I go for something I know, like this brand."</p>	26%

General appearance	Reference to the overall aesthetic of the bottle.	<p>“... the picture that I get in my mind when I see this, I see two latino women in short black dresses drinking this in Cubana”</p> <p>“I do like the style of it...”</p> <p>“I really like the simplistic design.”</p> <p>“It looks quite classy. A little bit fancy but also simplistic.”</p>	62%
Brand name	Anything relating to the actual producers’ name being mentioned and the general branding of the product.	<p>“It is just not a modern brand, it aims for a more historical appeal.”</p> <p>“This one I am not familiar with.”</p> <p>“This one I recognise because I know it, it is a known brand for me.”</p>	17%
Occasion	Reference to any occasions they would associate with that bottle of MCC.	<p>“This would be like a picnic between six girl friends that come together and have a good time together.”</p> <p>“I would definitely use this one if I should win a Grammy, or something, or a Noble Prize.”</p> <p>“I will use it for a special event but not as formal as a wedding”</p>	17%
Taste	When something relating to the taste of the specific MCC was made.	<p>“I am assuming a very fruity taste because of the nectar. So, I am guessing it is a classic rosé but more sweet and a little fruity”</p> <p>“I think it is going to be a classic champagne taste with a little bit more sour taste”</p> <p>“I wouldn’t expect a high level of sweetness, I would expect a dry.”</p>	23%

Table 5.3 shows the bottle elements that the consumers mentioned when they were presented with the bottles of MCC. On the far-right column is the percentage of the frequency in which that element was mentioned by the respondents. As can be seen in Table 5.3, not all of the respondents mentioned bottle elements related to the extrinsic features, but they could deduce either from the information on the bottle or from the brand name what kind of taste they could expect from the MCC. Respondent: “... *I didn’t know it was a demi sec. For instance, I would have now picked this up and looked for the farm at the back, read that it is a demi sec and probably not have chosen this because I prefer a brut.*” Respondent: “(Brand2) ... *looks like it tastes nice.*”

Some respondents tied a specific occasion with certain bottles, based on their appearance. Although not as often mentioned, from the examples on Table 5.3, it is visible that the respondents would associate certain MCC bottle appearances with certain occasions.

From Table 5.3, the top five bottle elements that the respondents noted or mention during the interview were information on the bottle, general appearance, colour scheme, neck foil, and front label. Information relates to either the MCC origin, product intrinsics, even just the name. This is an indication that both intrinsics and extrinsics are important when choosing a bottle of MCC to the respondents. From the top five elements, it can be deduced that the way the MCC bottle looks is of importance to the respondents. Figure 5.1 and Table 5.3 indicate that certain bottle elements stand out to the respondents more so than others.

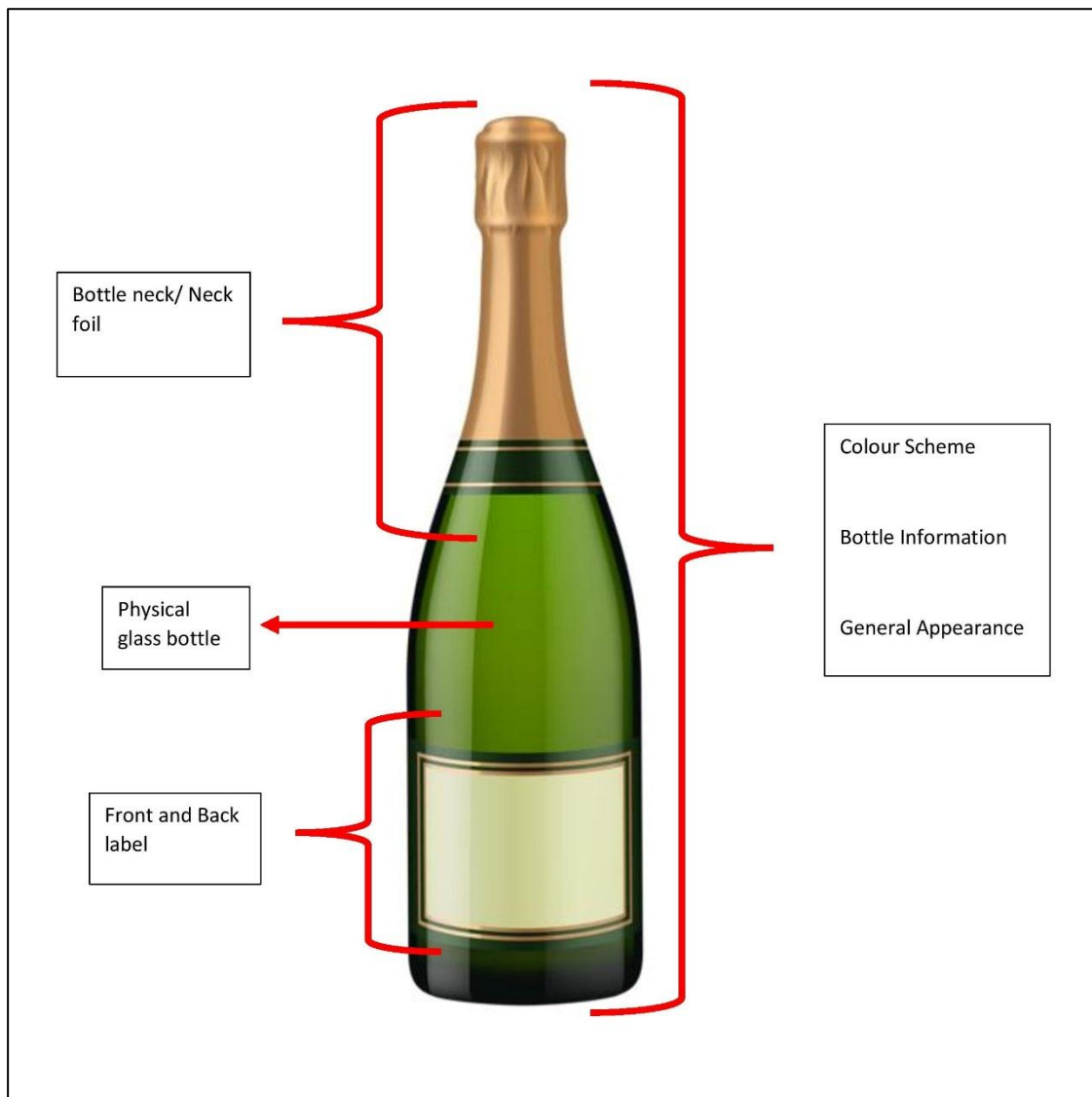


Figure 5.1 The bottle elements mentioned by the respondents in Table 5.3

5.3.4. MCC perception and branding

These are questions that relate to how the respondents perceive the MCC brand, what comes to their mind when MCC is mentioned and how they have interpreted MCC as a product for themselves subjectively. It also includes the brand image of MCC.

Questions:

- What comes to your mind when someone mentions MCC?
- What do you think is the brand message of MCC?
- Is this brand message you just described clearly conveyed in these 5 bottles?

Codes:

- Diversity
- Occasion
- Technical
- Other product association

- Positive descriptors

This section mainly focuses on the MCC brand, and not necessarily the individual producer brands. Therefore, an inquiry was launched into what consumers think is the MCC brand and if the bottles in front of them matched that brand image and message. To better understand it, brand image is how the respondent perceives the brand, and brand message is tied to brand identity which comes from the brand owner's side (Atkin & Thach, 2012; Lockshin & Corsi, 2013).

Table 5.4 Codes that respondents mentioned when on the MCC perception and branding

Code	Contextual Definition	Examples
Diversity	The differences and diversity in terms of different bottles, different messages, different styles	"Catering for every social and visual appeal" "something for everyone" "... every wine is going for a different message. Every wine is appealing to a different consumer"
Occasion	The mention of a place, or specific situation or space where MCC would be or has been consumed.	"celebration" "Party" "Polo event, dressed up smart, party, casual event" "Formal set up" "Graduation"
Technical	Refers to anything they said that would usually fall under the technical side of MCC	"Bubbles" "Sunny day grapes in vineyards" "Fresh harvest Hanepoot"
Other product association	When reference to another product that is not MCC is made.	"Classy sparkling wine" "Local Champagne" "Better sparkling wine" "Fancy Champagne, fancy drink"
Positive descriptors	Positive words or descriptors used or any emotive words and phrases that might have been used	"I enjoy, I feel happy" "glamorous, expensive, fancy" "dollar signs" "... the good life, 'I have made it' life, I am fancy, I am lavish, I am extravagant"

In Table 5.4, the occasion that the respondents associate with MCC are moments they would like to share with others. These occasions tend to go very well hand-in-hand with positive descriptors. These positive descriptors have a sense of jubilation and grandeur to them. What can also be observed is that the respondents would compare or associate MCC to other carbonated wine products like sparkling wine and Champagne.

Some respondents mentioned technical things such as the grape cultivar or something factual like "*wine with bubbles*". The respondents also experience the MCC brand as diverse, in this case most were referring to the different packaging aesthetics, the different grape cultivars, and the different styles of MCC available.

5.3.5. Price perception of MCC bottle extrinsic features

The respondents were probed on the price of the bottle and how much they think it costs, and why they think so, as well as to identify which bottle of MCC they thought was the most expensive. When reviewing the codes for this theme, focus was on why they chose these bottles, and not which bottle was chosen

Questions:

- Which bottle do you think is the most expensive? Why?
- How much do you think it costs?
- Are you surprised at the prices?

Responses:

- Price range: R140-R500 per bottle
- Price perception: Most respondents were surprised by the price, because the price was overstated
- Retail price range of bottles: R114.99-R174.99 per bottle

Codes:

- Familiarity (brand and taste)
- General aesthetic appeal
- Specific design element appeal

Table 5.5 Factors that the respondents mentioned contributed to the price perception of the different bottles of MCC

Code	Contextual Definition	Examples
Familiarity (brand and taste)	Have come across this brand before, have brought it, have seen it or have heard about it	"I have bought it before" "Krone has reputation for being a good MCC" "One of the big names I know" "I have seen Brand1 in a shopping store"
General aesthetic appeal	When mention of any specific design element that appealed to them was not made but used general positively descriptive words or phrases.	"Looks more sophisticated" "Just the way it looks" "Looks like they made more effort"
Specific design element appeal	When mention of a specific thing on the bottle design that might have signed to them that this is an expensive product to them was made.	"Golden foil at the top" "The design and colour scheme" "Looks expensive, again you have the gold..."

Table 5.5 shows the factors that the respondents mentioned contribute to the price perception of the different bottle appearances of MCC. When compared to the actual prices of the MCC, the respondents price perception based on extrinsics is high. The most expensive MCC the respondents were exposed to during the interview retailed at R174.99 per bottle, and the lowest

price a respondent gave was R140, the highest being R500 per bottle. There are also factors relating to the extrinsics that the respondents evaluated and used as an indicator of the price. The respondents identified certain brand names as being expensive either because of the prices of the still wines under the same brand, or they have seen the price in retail. The general extrinsic relating to the packaging was something that consumers critically evaluated and based their price perception on.

5.3.6. MCC consumption occasions and motivations

This section investigated whether the respondents buy MCC, the occasions they buy for, and what drives them to buy it.

Usually for which occasions would you buy MCC?

- Celebrations, Social get together (both friends and family), Relaxation, Gift

Questions and Codes:

- Most likely select in store for informal get together with friends:
 - Familiarity (brand and taste)
 - Aesthetic appeal
 - Price (affordable)
- Least likely select in store for informal get together with friends:
 - Unfamiliarity (brand and taste)
 - Price (too cheap to bring out, too expensive to bring out)
 - Aesthetically unappealing
 - Other
- Most likely select in store for formal occasion like birthday or anniversary:
 - Aesthetic appeal
 - Familiarity (brand and taste)
 - Price (expensive)
 - Other
- Least likely select in store for formal occasion like birthday or anniversary:
 - Unfamiliarity (brand and taste)
 - Aesthetically unappealing
 - Price (cheap)
 - Other

From the consumption occasion situation analysis above, the respondents consider aesthetics, familiarity and price as factors that they would use to make a decision on a bottle of MCC.

Table 5.6 Factors that the respondents mentioned affected their decision when choosing MCC for specific occasion, and which occasions they would consider consuming MCC.

Code	Contextual Definition	Examples
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Preference	When respondents mentioned preference to other products that are not MCC.	"Not my preference... I am a red wine drinker" "I don't buy alcohol"
Occasion:	Mention of a place, or specific situation or space they would consume MCC or they have consumed MCC.	"celebration" "Party" "Polo event, dressed up smart, party, casual event" "Formal set up" "Graduation"
Celebrations	Mention of an event which most would warrant it a celebration.	"birthday party" "Graduation" "Wedding" "Engagement"
Social get together (both friends and family)	Mention of a social get together whether it was with friends or family.	"Family occasions" "Braai" "Pre-drinks" "Dinner" "Light parties"
Relaxation	Mention of consuming MCC to relax.	"have by myself" "Stress relief" "Hot summer's day" "Evening cap"
Gift	When MCC was mentioned for gift giving.	"Gift"
Familiarity (brand and taste)	When the respondents have come across the brand before, have brought it, have seen it or have heard about it, and tasted the brand they were talking about or the style of MCC of that specific brand.	"... I prefer sweeter beverages... wine..." "... had it few times me and my friends..." "... I enjoy rosé..." "... because solely the experience I had at the estate when I first visited."
Aesthetic appeal	The respondents said or eluded to the fact that they like the extrinsics.	"... classy design..." "... it looks classy, it looks expensive, it looks extravagant, and all those beautiful words." "... looks nicest, looks most impressive..." "...plain, informal..."
Price (affordable, cheap, expensive)	The respondents indicated that the price of the product plays a role in the decision making	"... middle range of prices..." "...plain, informal, the price is suitable..." "I would go with the cheaper option... I will not be able to enjoy talking to XYZ..." "... I don't normally go for the cheapest..." "I will not choose the expensive one, not choose it for informal event..." "I would go for the more expensive one..." "... price could be a contributing factor..."

Unfamiliar (brand and taste)	The respondent mentioned that they are unfamiliar with the brand, or the style of MCC. It can be unfamiliar or even if they have never come across it.	"...don't know it very well..." "... just thinking of wine it is normally a bit watery, not as tasteful..."
Aesthetically unappealing	The respondent mentioned that the extrinsics do not appeal to them.	"... the packaging doesn't speak to me, it doesn't say formal..." "... when I picture birthdays I picture colour schemes and themes, and this wouldn't fit with anything..." "...far too busy of a bottle. It is not appealing, it looks tacky..." "... doesn't look formal..." "... I don't like the shape..."
Other	Things that were deemed worth noting but would appear only once.	"...one of my favourites and I would not share..." "...because of how common it is. And chances are at an anniversary maybe the couple has already stocked up on Krone for their people..." "... I'd go for something I do not have often..."

Table 5.6 shows the code findings from the interview section that referred to occasions the respondents would consume MCC, as well as how they would decide on a bottle for an occasion. From the interviews, for some of the respondents, their reasoning behind choosing a specific bottle would be the same reason for not choosing a different bottle. It would usually come down to the occasion, and if the bottle appearance fits said occasion.

The respondents went into detail on why they would choose a specific bottle. These range from gift giving, personal consumption, social consumption, or even because the packaging looks appealing. From the respondents, familiarity, price, and aesthetic appeal seem to be the main drivers in choosing an MCC for different social situations. The results from the "Most likely, least likely" scenarios, showed that there is an inverse relationship. Meaning, the reasons why they would choose an MCC for an informal get together with friends, were the same reasons they would not choose it for a formal celebration. This indicates that the respondents want to communicate a specific message with every social gathering. The respondents were aware of the social risks and benefits associated with choosing, presenting, and gifting a specific bottle of MCC.

5.4. Discussion

In Section 5.3 the results of the thematic analysis were presented in themes and codes. Section 5.4 takes those findings and discusses them based on a concept map drawn from the themes and codes. In Figure 5.2 the main themes are displayed in different colours and have arrows pointing to the codes from the themes.

5.4.1. Concept Map of Thematic Analysis Findings

The following discussion not only draws from the findings in Section 5.3., but also Figure 5.2, which is a concept map of the themes and codes covered in Section 5.3. Figure 5.2 is useful as it helps in visualising the relationship between the themes and codes. Sometimes themes tend to emerge as codes under other themes. As one continues to look at Figure 5.2, it can be observed that these concepts influence each other, and thus would affect how a consumer would experience a product such as MCC.

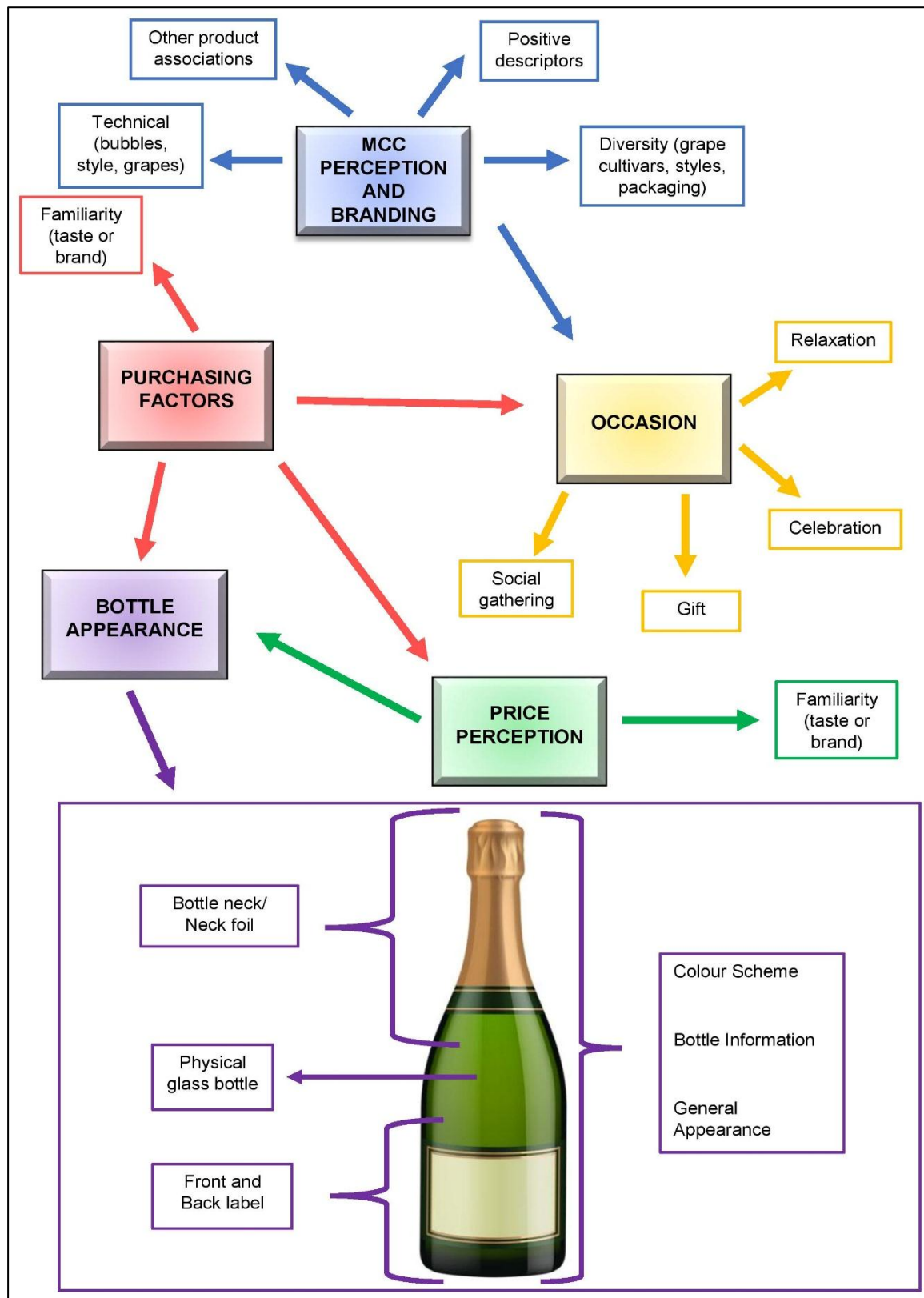


Figure 5.2 Concept map showing the relationships between the themes and codes in Section 5.3. Every colour represents a theme and its associated codes.

The respondents seem to understand the MCC brand image. The positive descriptors and imagery that the respondents used to describe the MCC brand were very similar to those found by Charters *et al.*, 2011, where the cross-cultural perception of sparkling wine around the world was investigated. These were universal descriptors used all over the world that the respondents

used to describe the MCC brand. When the respondent saw the brand names, most of them had no problem saying that they have probably heard or seen about half of the chosen brands. Therefore, the findings imply that the respondents are familiar with the brand image, however, there seems to be a problem with understanding the brand message.

Occasion is something that emerged with MCC branding. It reveals that a product like MCC is meant for certain occasions, and not just for everyday drinking. However, if the look of the bottle fits the occasion the respondent will consume the product.

When evaluating the factors that the respondents mentioned to consider when purchasing MCC, bottle appearance was the one that would always emerge. The respondents seemed to be concerned with the associated social risk accompanied by choosing a bottle that does not aesthetically fit a certain occasion or maybe looks too inexpensive.

In retail, consumers often rely on wine extrinsics as basis to choose a bottle for consumption, because they are unable to experience the product intrinsics in retail (Bruwer *et al.*, 2011). The bottle labelling and appearance contains a lot of information, relating to both intrinsic and extrinsic factors (Tang *et al.*, 2015). Thus, it plays a major role in the decision that a consumer makes when deciding on a bottle of MCC in retail. In past studies done with wine consumers, it was found that packaging and brand awareness are informants to consumers' wine preference (Tang *et al.*, 2015). Consumers are generally more familiar with extrinsic cues than they are with intrinsic cues, one would find that consumers would rely more on extrinsic cues for product evaluations. Due to this more thought and effort needs to be placed into bottle appearance since it will likely be the respondent's first impression of the product or brand.

Another concept that emerged when the respondents had to evaluate the bottle appearance was occasion. This emerged because some respondents associated certain bottle appearance with certain occasions. In Figure 5.2, the theme occasions indicate that there are various occasions in which the respondents would consume MCC. This corroborates what Bruwer *et al.*, 2011 found, which was that still wine is moving from an occasion based drink to more of a lifestyle drink (Bruwer *et al.*, 2011). With MCC, there is a move from a celebratory drink to a lifestyle drink.

Choosing wine is seen as an occasion-based behaviour, with people basing their decision on whether they will be eating with friends or family, intimate dinner, celebration, drinking alone, and other social gatherings (Viot, 2012). Results indicated that the respondents are aware that their choice in a bottle of MCC is an extension of them, and that choosing a bottle of MCC says something about them to their peers. This relates to the perceived social risk in their social circle, therefore they employ a strategy that will allow them to reduce this risk by choosing a bottle that will appeal to their guests in taste and appearance. Respondents mentioned trying to ensure that they are cognisant of the people who will be engaging with the product, or to present something that has proven to yield a social benefit. These findings corroborate Atkin & Thach (2012), where it is mentioned that younger consumers are more involved and more susceptible to the opinions of others.

Social risk is one of the functional risks associated with the purchase of wine (Atkin & Thach, 2012; Nunes *et al.*, 2016). This risk is not only limited to still wines, but it is also carried through with MCC.

Wine buying behaviour is usually determined by extrinsic cues (Nunes *et al.*, 2016). Price is commonly seen as the most important extrinsic attribute when evaluating wine prior to purchase, this applies to subjective and objective product knowledge (Bruwer *et al.*, 2017; Robertson *et al.*, 2018). Consumers often complain that quality sparkling wine is expensive but would rather spend more money than compromise on quality. Others purchase cheaper sparkling wine because they can afford it and only on special occasions would they spend more (Charters *et al.*, 2011).

It has been found that wine brand is important in wine purchase decision (Atkin & Thach, 2012; Lockshin & Corsi, 2013). But before even going into wine brand, the consumers need to understand the product brand – the MCC brand.

The relationship a consumer has with a brand depends on the establishment of the brand meaning (i.e., brand personality, brand association, brand attitude, and brand image) to the consumer (Chang & Chieng, 2006). Brand meaning is established from the consumer's experience with the brand. With a generic brand like MCC this could be regarded as a challenging because there are different producers that are also trying to communicate their own specific brand message.

5.5. Conclusion

This chapter was dedicated to understanding the young (18-35 years old) respondents' familiarity with MCC. With regards to familiarity, the respondents were knowledgeable on the MCC product mainly due to their prior engagement with the product. Therefore, the respondents are aware of the MCC product and some of the knowledge regarding the product.

The label is the first line of communication to entice the consumer, so it is extremely important that the characteristics appearing on the label are visually attractive and stand out on the retail shelf. Apart from the label, another factor that determines if the respondents would buy MCC is price. As much as the respondents overestimated the price of the MCC based on the aesthetic, price is still a major factor that consumers consider.

Consumption occasion and consumption motivations seem to also be a contributing factor when choosing MCC. The respondents' choice of MCC is highly dependent on the type of people who will be at the occasion, as the respondents attach value to what a choice in a bottle of MCC says about them in a social context. Therefore, these respondents place a lot of value on the social risk and benefits associated with the presentation of a bottle of MCC.

The brand message of MCC is difficult for the respondents to understand. This is difficult to address as within the generic MCC brand there are several producer brands who are also

communicating their own individual message. This presentation of the MCC brand needs to be done delicately as to not confuse the consumer.

In occasion type situations consumers would opt for MCC they are familiar with, both in terms of taste and brand, and something that has the right aesthetic for the occasion. Both these factors are employed by consumers to reduce the perceived social risk.

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Chapter 6: General discussion and conclusion

6.1 General Discussion

The South African wine industry is growing and seeks to understand the consumers that purchase their products. It is especially an understanding of Méthode Cap Classique that was identified as an area that requires more insights to develop marketing strategies that appeal to the South African sparkling wine consumer. In line with the aim of this study, an explanatory sequential mixed method design was used to gain insights into how the South African sparkling wine consumer responds to the MCC product offering. The use of mixed methods research allowed the development of better insights on how the young (18-35 years old, mixture of Generation Y and Z) South African sparkling wine consumer experiences the product acceptance (intrinsic) in relation to how they experience the bottle appearance (extrinsic). This project also served to compare some of the available body of literature on still wines to the findings from this exploratory study.

The first objective was to investigate and explore the sparkling wine category producer and growth, furthermore the product sensory characteristics (referring to taste and aroma attributes) were investigated. This objective was met in Chapter 3, where the Platter's South African Wine Guide and the South African Wine Information Systems (SAWIS) were mined to explore the sparkling wine product category. The findings from Chapter 3 served as foundation to support why MCC was chosen as the product of investigation and not carbonated sparkling wine. The second objective, addressed in Chapter 4, investigated how the South African sparkling wine consumer experiences the MCC product offering intrinsically, by means of a close-ended consumer tasting questionnaire. Respondents evaluated five different styles of MCC and provided their opinions. The third objective, addressed in Chapter 5, was to investigate the young (GenY and GenZ) South African wine consumer's familiarity with MCC, and their perceptions of the product's extrinsic features. The investigation was done by means of a semi-structured open-ended questionnaire.

Chapter 3 with the sparkling wine landscape, was the first time such an approach was used to observe the sparkling wine product landscape from different perspectives. The approach used built a foundation to support why MCC wines should be investigated to gain both sensory and consumer insights.

Findings on still wine consumer behaviour reveal that female consumers tend to prefer sweeter wines and white wines as opposed to red wines which are preferred by males. The findings in Chapter 4 reveals something different, which is there was no differences in how the females compared to the males liked the different styles of MCC. What came up was that most liked and preferred the sweeter (demi sec) styles of MCC wines, and their least favourite was usually the low alcohol option.

The respondents attach more monetary value to MCC extrinsic features than they do to intrinsic features. Although true, Millennials (falling into Age Group 1: 18-35 years in Chapter 4) have been reported to drink wine because they like the taste of wine, conversely not liking the taste of wine was by far the most important reason why they do not drink wine (Nowak *et al.*, 2006; Bruwer *et al.*, 2011). Even though the respondents liked the taste of MCC and are likely to buy it if they like it, Chapters 4 and 5 showed that to connect with this consumer category the appropriateness of the bottle appearance is important as well.

Just as still wine is a lifestyle drink (Bruwer *et al.*, 2011), MCC has come to follow this trend. The respondents are finding different occasions and opportunities to consume MCC, and not just at major formal celebration which happen occasionally, such as weddings or graduations.

This study has laid a foundation on how the sparkling wine, both carbonated sparkling wine and MCC, landscape looks in South Africa from multiple perspectives. The consumer insights gained from this study, show that mixed methods can be used to investigate consumer behaviour and perception. Future researchers will also be able to build on, expand, and compare the findings from this study with their own.

6.1.1 Industry Implications

Through this project, the Cap Classique Producers Associations questions regarding the new MCC consumer were addressed. The findings in Chapter 4, show that the respondents are aware of the different styles of MCC, and can taste the differences. When marketing MCC, the industry is aware that the age of the consumer can be used as a segmentation tool, while gender does not show much of a difference in liking and preference. The respondents put a higher price perception on the extrinsic features of an MCC bottle than they do intrinsic features. In Chapter 5, bottle appearance and price perception are factors that the respondents rely on to base their decision regarding which bottle of MCC to purchase. Although there are positive descriptors on how the respondents perceive MCC and its branding, most of the consumers are very unclear of the brand message, but they understand the brand image. Therefore, the industry might need to build a clearer message of the MCC brand.

All the findings from Chapter 4 and Chapter 5, not only allows the CCPA to understand the MCC consumer, but also provides insights to marketers on how to better position the product to better meet the consumers' demands and expectations.

6.2 Limitations and Future Work

Future work opportunities lie in the sensory of low alcohol or low energy wines and sparkling wines, from this study the respondents liked the low alcohol option the least. It was a blind tasting; therefore, it is unclear if they disliked it because it is low alcohol or because of the specific chosen brand.

One of the limitations encountered which might have skewed the results was the location in which the study took place. Stellenbosch is one of the oldest wine producing regions in South Africa. This may introduce some bias because wine farms are close to the town and even in town there are places dedicated to wine tastings. Therefore, it would be good to conduct the same study in another town or all over the country to see how the findings compare.

South Africa is a country that prides itself on its ethnic diversity. Therefore, future studies could replicate the study with more of an equal distribution of people of different ethnicities.

Although there was male versus female segmentation, there was however not an equal number of male vs female. Other studies could have a comparable look at the findings in this study.

One of the sources used for the sensory descriptors was the Platters South African Wine Guide, which uses experts and industry professionals to rate the wines and provide sensory descriptors. Although the tastings are thorough, and the highest-rated wines have undergone multiple rounds of stringent tasting, the findings are not audited. Therefore, there could be human error involved.

There could have been a better integration of the qualitative and quantitative findings. Something other than best-worst scaling because the finding of a best-worst scaling provides a list of attributes, whereas there should also be an emphasis on why the attributes are ranked that way.

6.3 Conclusion

This study was able to use an explanatory sequential mixed method design to gain insight into how the young South African wine consumer experiences the MCC product. The overall findings show that the respondents like the taste of MCC, but from the qualitative inquiry we see that bottle appearance and occasion seem to be main contributors to how the consumer experiences the product. Furthermore, there seems to be a growth in the occasions that the respondents would consume MCC. It is moving away from more than just a celebratory drink, to a drink that is incorporated it into the respondents' daily lives.

6.4 References

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Addendum

Addendum 1: Quantitative Consumer MCC Tasting Questionnaire

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Welcome to the sensory lab!

You are hereby requested to participate in a research project about consumers' perceptions of South African sparkling wine conducted by Tshepo Mokonotela from the Institute for Wine Biotechnology at Stellenbosch University

Click the **next** button to begin

Next

Wine evaluation

Generated by Compusense Cloud

Please taste the wines presented and answer the following questions

Sample: BC111

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all I like this a lot

On a scale of 1 to 7, where 1 = "Very unlikely" and 7 = "Very Likely", how likely would you be to buy the wine you have just tasted?

Very unlikely Very likely

Looking at the price range below, please indicate what you think the cost would be of a bottle of the wine you have just tasted in the store where you usually shop for wine?

Less than R90	Between R90 and R99.99	Between R100 and R109.99	Between R110 and R119.99	Between R120 and R129.99	Between R130 and R139.99	Between R140 and R149.99	R150 or more
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Next

What would be the most appropriate occasion for drinking the sparkling wine you have just tasted?

Sample: BC111

1st	2nd	3rd	4th
			

A relaxing drink at
the end of the day
at home

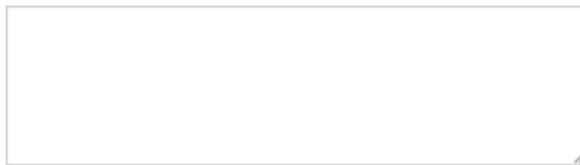
With an informal
meal at home

With a more
formal dinner
party at home

At a
party/celebration
at home

Other (specify)

Sample: BC111



Next

Generated by Compusense Cloud

Look at the flavour descriptions below, which one do you feel best describe the wine you have just tasted?

Sample: BC111

Generated by Compusense Cloud

<input type="checkbox"/>	Sweet ???
<input type="checkbox"/>	Fresh ???
<input type="checkbox"/>	Fruity ???
<input type="checkbox"/>	Apple ???
<input type="checkbox"/>	Pear ???
<input type="checkbox"/>	Strawberry ???
<input type="checkbox"/>	Raspberry ???
<input type="checkbox"/>	Citrus ???
<input type="checkbox"/>	Creamy ???
<input type="checkbox"/>	Brioche/bread ???
<input type="checkbox"/>	Dry ???
<input type="checkbox"/>	Complex ???
<input type="checkbox"/>	Balanced ???
<input type="checkbox"/>	Rich ???
<input type="checkbox"/>	Elegant ???
<input type="checkbox"/>	Delicate ???
<input type="checkbox"/>	Acidic ???
<input type="checkbox"/>	Lemon ???
<input type="checkbox"/>	Floral ???
<input type="checkbox"/>	Light bodied ???
<input type="checkbox"/>	Full bodied ???
<input type="checkbox"/>	Cherries ???
<input type="checkbox"/>	Delicious ???

Generated by Compusense Cloud

<input type="checkbox"/>	Mouth-watering ???
<input type="checkbox"/>	Honey ???
<input type="checkbox"/>	Other ???
<input type="checkbox"/>	None of the above ???

Other (specify)

Sample: BC111

[Next](#)

Generated by Compusense Cloud

Sample: BC111

Sweet
How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all I like this a lot

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Fresh
How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all I like this a lot

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Fruity
How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all I like this a lot

--	--	--	--	--	--	--

Apple

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Pear

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Strawberry

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Raspberry

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Citrus

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Creamy

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Brioche/bread

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Dry

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Complex

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Balanced

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Rich

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Elegant

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Delicate

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Acidic

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Lemon

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

Floral

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

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Light bodied

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

--	--	--	--	--	--	--

Full bodied

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

--	--	--	--	--	--	--

Cherries

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

--	--	--	--	--	--	--

Delicious

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

--	--	--	--	--	--	--

Mouth watering

How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all

I like this a lot

--	--	--	--	--	--	--

Honey
How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all I like this allot

Other
How would you rate the wine you just tasted on a scale of 1 to 7, where 1 = "I don't like this at all" and 7 = "I like this a lot"?

I don't like this at all I like this allot

Next

Generated by Compusense Cloud

Of the wine you have just tasted, which aspect(s) of the wine did you **like the most**?

Sample: BC111

Next

Generated by Compusense Cloud

Of the wine you have just tasted, which aspect(s) of the wine did you **dislike the most**?

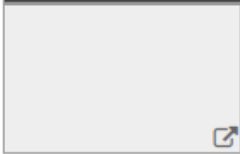
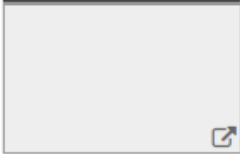
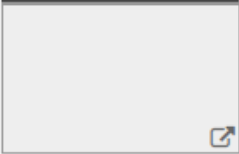
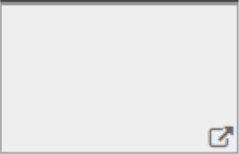
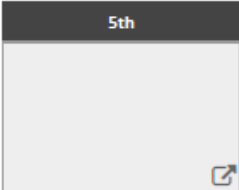
Sample: BC111

Next

MCC Preference Ranking

Generated by Compusense Cloud

Think about the five wines you have tasted. Can you rank them in terms of preference? Please rank the wines according to your level of preference where 1 = liked the most.

1st	2nd	3rd	4th
			
			

BC111

BC222

BC333

BC444

BC555

Next

Generated by Compusense Cloud

Thank you for completing the first section!

You have completed section one of three!

Click the **next** button to resume

Next

MCC and sparkling wine familiarity

Generated by Compusense Cloud

On a scale of 1-5, how familiar are you with sparkling wines from South Africa?

Not at all familiar Very familiar

On a scale of 1-5, how familiar are you with Methodé Cap Classique (MCC) wines?

Not at all familiar Very familiar

[Next](#)

Generated by Compusense Cloud

Thank you for completing the second section!

You have completed section two of three!

Click the **next** button to resume

[Next](#)

Demographics

Generated by Compusense Cloud

Which one of the following age groups do you fall into?

- ☐ Under 18
- ☐ 18 - 25
- ☐ 26 - 35
- ☐ 36- 45
- ☐ 46 - 55
- ☐ above 55

Are you ...?

- ☐ Male
- ☐ Female

Are you ...?

- ☐ Black/African
- ☐ Coloured
- ☐ Asian
- ☐ Indian
- ☐ White
- ☐ I prefer not to say

Consumption Frequency

How often do you drink the following types of wine? Including drinking at home and when you're out at restaurants for example.

White wine

Most days / every day	2-5 time a week	About once a week	1-3 times a month	Less than once a month	I don't drink this type of wine
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Red wine

Most days / every day	2-5 time a week	About once a week	1-3 times a month	Less than once a month	I don't drink this type of wine
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Rosé / blush wine

Most days / every day	2-5 time a week	About once a week	1-3 times a month	Less than once a month	I don't drink this type of wine
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Sparkling wine

Most days / every day	2-5 time a week	About once a week	1-3 times a month	Less than once a month	I don't drink this type of wine
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

[Next](#)

Sparkling wine consumer behaviour and opinions

Generated by Compusense Cloud

Looking at the statements below, please indicate the extent to which you agree with each on a 1 to 5 scale, where 1 = "Disagree strongly" and 5 = "Agree strongly".

I have a strong interest in sparkling wine

Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

I like to take my time when I purchase a bottle of sparkling wine

Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Sparkling wine is important to me in my lifestyle

Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Drinking sparkling wine gives me pleasure

Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Compared to other people, I know less about the subject of sparkling wine

Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

I feel competent about my knowledge of sparkling wine

Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

I don't understand much about sparkling wine

Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Next

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Thanks for completing this test!

Finished

Addendum 2: Semi-structured Interview Questions

For Questions 1-7, the prices of the bottles are not shown; for the Questions 8-15 they are displayed next to each bottle.

1. What does MCC stand for?
2. Which country or countries do you think MCC is made?
3. What comes to mind when someone mentions MCC?
4. Is Champagne and MCC the same thing?
5. Do you think MCC is of higher quality than sparkling wine?
 - a. What is sparkling wine?
6. Do you buy MCC?
 - a. If yes, where?
 - b. Why? Occasion?
 - c. If no, why?
7. Which bottle do you think is most expensive?
 - a. Why?
 - b. What do you think is the retail price of this bottle?
8. Which bottle would you most likely select in store for an informal get together with friends? Why? Take your time in selecting a bottle
9. Which bottle would you least likely select in store for an informal get together with friends? Why? Take your time in selecting a bottle
10. Which bottle would you most likely select in store for a formal occasion like an anniversary or birthday? Why? Take your time in selecting a bottle
11. Which bottle would you least likely select in store for a formal occasion like an anniversary or birthday? Why? Take your time in selecting a bottle
12. What on the bottle appeals and what does not appeal to you? (bottle extrinsic, respondent go through each bottle individually)
 - a. Bottle appearance?
 - b. Information on the bottle?
13. What do you think of the prices of the MCC bottles?
14. What do you think is the MCC brand message? What do you think is the brand message of MCC? Do you think its articulated clearly on these bottles?
15. Talk us through your decision-making process when buying a bottle of MCC in retail, starting as which store you would select for the purchase.

Addendum 3: Respondent interview consent form

Consumer Interview Consent Form

You are invited to participate in a face to face interview with regards to consumers' MCC perception. This is a research project being conducted by Tshepo Mokonotela, a MSc student at the Institute for Wine biotechnology, Department of Viticulture and Oenology, Stellenbosch University. The survey should only take approximately 40 minutes. The interview will be recorded and transcribed for research purposes.

PARTICIPATION

Your participation in this survey is voluntary. You may refuse to take part in the research or exit the survey at any time without penalty. You are free to decline to answer any question you do not wish to answer for any reason.

BENEFITS

You will receive no direct benefits from participating in this research study. However, your responses may help us learn more about how consumers make an MCC purchase decision, helping to guide future marketing strategies.

RISKS

There are no foreseeable risks involved in participating in this study other than those encountered in day-to-day life.

CONFIDENTIALITY

Your survey answers will be transcribed and coded anonymously. Therefore, your responses will remain anonymous. No one will be able to identify you or your answers, and no one will know whether you participated in the study.

CONTACT

If you have questions at any time about the study or the procedures, you may contact my research supervisor, Dr Hélène Nieuwoudt, phone at +27-21-8082748 or via email at hnn@sun.ac.za.

- You have read the above information
- You voluntarily agree to participate
- You are 18 years of age or older

Name:

Date:

Signature:

Investigator:

Date:

Signature: